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Review



# Inside APHIS

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## Eradication, California-Style

By Natalie Bosecker, Public Information, LPA

We've all heard tales about southern California, but certain APHIS employees could sing a song about it: "Medflies keep falling on my head." Sterile Mediterranean fruit flies, that is.

The Cooperative Mediterranean Fruit Fly Project started with its first fly find at Elysian Park near Dodger Stadium in Los Angeles in July 1989. The project was a cooperative effort between APHIS; the California Department of Food and Agriculture (CDFA); and the Los Angeles, Orange, Riverside, and San Bernardino county Departments of Agriculture.

The 16-month project employed nearly 600 people at its peak. By the end of FY 1990 the cooperative effort had cost \$52 million. For 6 months it ran nearly 24 hours a day. During the period of greatest activity, 11 sites were included in the project.

All of this time, money, and effort were spent to eradicate the colorful little Mediterranean fruit fly. The fly, with its orange wings and blue eyes, looks harmless. But if it ever

became established in California, it would cost billions in spoiled fruit and lost exports.

What's more, last summer's Medflies were not the only pest problem in southern California. Infestations of Mexican fruit flies also required separate eradication projects.

### Busy, Busy, Busy

During the day project headquarters was a flurry of activity, peopled by trappers, fruit cutters and stripers, and sterile Medfly release workers making their rounds. At night the skies were filled with a

squadron of helicopters that sent droplets of malathion bait towards the earth.

The Medfly project changed quite a bit and faced many challenges between the first fly find in the summer of '89 and the project's completion in November 1990. USDA personnel from throughout the country came to southern California on TDY ("temporary duty") to help with the eradication and quarantine procedures. APHIS had 132 permanent positions that were staffed on a rotating basis for over a year. At one time there were 321 Federal employees at the project.

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## Information as a Strategic Resource

By David Vierling, Information Systems and Communications Division, M&B

"Information is POWER" is a frequently used phrase that communicates the essence of information. As a concept, "Information Resources Management" (IRM) conveys the principle that information is a valuable asset that must be effectively controlled and directed at each level of management.

In regulatory work information triggers action, which in turn creates information. In APHIS, information has the power to make program delivery more efficient and effective.

### Information As An Asset

"More than anything else, IRM is a concept, an approach to problem identification and problem solving," says Ira Hobbs, Director of the Information Systems and Communications Division (ISCD) of M&B. "IRM means viewing and using data (information) as an asset, as though information were a physical resource like personnel or furniture.

"IRM means determining what information a manager needs," he says, "where he or she can get it (sources), and what information other units need from him or her (distribution). Planning and management of information resources can improve the efficiency and effectiveness not only of one office or organization but also of the agency and USDA as a whole. Years of work can be saved by sharing information instead of duplicating it.

"Many people believe IRM to be synonymous with overseeing computer systems and other automatic data processing (ADP) equipment," Hobbs says. "While ADP equipment and systems are part of IRM, they represent

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A solitary horseman checks for stray cattle crossing the Rio Grande. See story on tick rider Horacio Garza, page 22). Photo by Chuck Herron.



# "Nosy" Beagle Blocks Forbidden Fruit Mailed From Hawaii

By Caree Lawrence, Public Information, LPA

How do you keep packages of fresh Hawaiian fruit that could contain agricultural pests from reaching the U.S. mainland—while safeguarding the privacy of people who use first-class mail?

That was the challenge recently faced by PPG's Port Operations. Their solution? Call in the dogs!

Not just any dogs, of course, but special Beagle Brigade canines like Doc Watson. The Beagle Brigade dogs sniff passenger luggage at airports throughout the country to identify fruits, meats, and other agricultural items that are forbidden entry into the United States.

Now Doc is showing off a new skill—detecting contraband fruit inside parcels at the U.S. Post Office in Honolulu.

## Warrants for Suspicious Packages

For decades APHIS has maintained a quarantine on Hawaiian fruit going to the mainland, covering both commercial shipments and products carried by private individuals. Agency officials have long suspected that the quarantine was being circumvented by packages sent through first-class mail.

To determine if this suspicion was correct, APHIS and the U.S. Postal Service began a pilot program in May 1990 to inspect first-class mail for prohibited agricultural products. Congress passed the Agricultural Quarantine Act in 1989 specifically to prohibit the mailing of forbidden fruit. Under the law APHIS has to ask a U.S. District Court in Honolulu to issue criminal warrants to search suspect parcels.

Because the Court could not issue a warrant based solely on the suspicious appearance of a package, APHIS officials

had to prove that trained beagles could identify forbidden fruit inside closed containers by scent. In fact, the dogs attained an accuracy of 90 percent or better, which was considered adequate legal cause by the Court to issue search warrants for first-class packages.

## Sitting Down on the Job

Here's how Doc Watson gets involved. APHIS inspectors select mainland-bound packages that look suspicious and place them alongside similar parcels not believed to contain contraband. Then Doc Watson is called in to sniff out suspects. He is trained specifically to respond to the scents of mango, litchi, soursop, citrus, avocado, and guava, the main carriers of exotic fruit flies.

Doc's response is passive—that is, when he "hits" on a package with forbidden fruit, he merely sits down quietly beside it. Then he looks up to his handler, Michael Simon, for his reward—praise and a couple of dog biscuits.

After suspicious packages have been identified, inspectors prepare forms certifying that each was singled out by Doc Watson. The court then issues search warrants for the packages.

Warrants in hand, inspectors open the packages, remove the contraband, reseal the remains, and send them on to their destination. The addressee is not held responsible but does receive a notice stating what was removed.

The sender bears responsibility for the violation and receives a citation and a \$250 fine. If the fine is contested, a hearing can be held, and the penalty can be increased—up to \$1,000. Because evidence of wrongdoing is so well-recorded, most senders just pay the fine.

Throughout the pilot program, Doc Watson has demonstrated virtual 100-percent accuracy. As of the end of October, 477 warrants had been issued and all of the suspect packages were found to contain prohibited or restricted items. Inspectors confiscated a total of 4,229 pounds of produce. There were 177 interceptions of fruit flies, foreign weeds, diseases, and other exotic pests. Included in those interceptions were 45 Mediterranean, oriental, and melon fruit flies.

Some fruits sniffed out by Doc Watson are small—a few miniature oranges mailed with other goods. Some finds are huge, like a 30-pound jackfruit that outweighed Doc by about 10 pounds.

From a quarantine standpoint, illegal fruit is dangerous regardless of its size. Even one miniature orange can carry enough larvae, or maggots, to start a new fruit fly infestation on the mainland.

Officials of the court, the U.S. Postal Service, and APHIS consider the pilot project such a success that they have decided to extend and expand it. Soon Doc Watson and Mike Simon will be working alongside a second team—busily sniffing packages for a safer agriculture. □



Secretary of Agriculture Clayton Yeutter shows confiscated fruit to members of the media during his August visit to the Honolulu post office. Doc Watson and Handler Mike Simon, in background, have demonstrate how the beagle works with nearly 100 percent accuracy. Photo by Gig Greenwood.

# Those Decomposing Animal Proteins

By Amichai Heppner, Public Information, LPA

What Denver Wildlife Research Center project is ecologically sound but malodorous? Economically beneficial but disgusting?

It's research that takes a circuitous route via apple cores and starlings to find a way to protect Douglas fir seedlings from destruction by mountain beavers and black-tailed deer.

## Future Forests

Seedlings are the forests of tomorrow. Forest managers can't afford to be permissive towards wild animals that eat or damage recently planted seedlings.

That's particularly true in Washington and Oregon, where seedlings are in especially short supply. Forest managers need to prevent or reduce losses, but they also want to minimize the need for eliminating wild forest animals to preserve up-and-coming trees.

So researchers have developed a number of alternatives for reducing damage from browsers. In one effort they shielded seedlings with plastic tubing. In another they seeded new plantations with plants that attract browsers more than tree seedlings do.

In another promising technique seedlings are treated with substances that repel wild animals and condition them to leave seedlings alone. One type of repellent, discovered some years ago, builds on the fact that some tree-feeding animals hate the smell of decomposing animal proteins.

One commercial powder on the market (sensibly named BGR-P for "Big-Game Repellent Powder") takes advantage of this aversion. Its main active ingredient is powdered eggs.

"About three years ago, we evaluated BGR-P for conditioning and repelling mountain beaver and deer to protect Douglas fir seedlings," says Dan Campbell, a wildlife research biologist working for the Denver Wildlife Research Center out of Olympia, WA. "It worked pretty well, except for two drawbacks.

"First, the powder is fairly costly, even though it is made from pet-food-grade eggs. Second, the aversive effect usually lasts for only a month or two, especially for deer. To overcome these drawbacks, I decided we should reevaluate material that I had made earlier from dead starlings."

## Starling Powder

While that idea may seem far-fetched to the uninitiated, it could solve two local problems in animal damage control at a single stroke. Washington state, it turns out, has an overpopulation of starlings on both sides of the Cascade Mountains. Huge flocks peck or feed on apples, cherries, grapes, blueberries, and other crops and contaminate them and make them unsalable. They also eat and contaminate the feed in cattle feedlots and machinery at mills.

"ADC personnel in Washington take the lead in thinning out the starling flocks," says Campbell. "They use large live traps baited with waste apples and corn, and then euthanize the catch.

"Currently, there is no use for dead starlings, and there are problems getting landfills to accept the carcasses. So I thought we might be able to grind them up and make an inexpensive, longer-lasting powder to protect Douglas fir seedlings."

In 1988 Campbell discussed his needs with Jack Hageman, an ADC technician, and Gary Oldenburg, ADC State Director. They furnished Campbell's group with a modest initial 100 pounds of starlings. Campbell then set out to evaluate starling powder as a substitute for egg powder, particularly for deer and beavers.

Campbell's group keeps a small herd of black-tailed deer on the premises, as well as pens of mountain beavers. These animals helped with the evaluations.

Campbell used three groups of transplanted two-year-old Douglas fir seedlings for the deer trial. One group of seedlings was left untreated, as a control. The second group was sprayed with Rhoplex AC-33, the standard adhesive used to get repellents to stick to seedlings. The third group had ground starling powder dusted onto the adhesive, so that each seedling received two to three grams of powder.

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*Black-tailed deer in a test planting at the Olympia, WA, field station do not browse the Douglas fir seedlings that were treated with starling repellent. Photo by Dan Campbell.*



Dear *Inside*:

On Monday, August 13, at 2:30 p.m., Richard Fraser, R&D, looked out of his window from the second floor of the Federal Building. He saw five youths looking inside different cars in the parking lot. Fraser suspected that they were getting ready to steal one of them.

When they got into a brown 1984 Toyota Camry, Fraser called the police and the Prince Georges Management Center. Security guards and police arrived within the next half hour. Fraser gave them descriptions of the car and the five youths.

Police called Margaret Powell, ADC, owner of the Toyota, at 8 p.m. that evening. They had caught the youths driving near the University of Maryland and arrested them. The door locks and car's ignition system had been damaged, but nothing was taken from the car.

The story has a happy ending for Margaret Powell, thanks to Fraser's alertness and quick thinking.

Jim Boles, R&D

Forwarded from Doug Ladner,  
PPG Planning and Design Staff:

Dear Doug,

Thank you and the many at APHIS who are quietly working away to help solve such dilemmas as what to do with the Africanized Honey Bee. Without your support, I could not have done my job of putting together the Texas Symposium for NASDA and the honey bee industry.

It is probably too soon to know what effect the symposium had on increasing acceptance of the Texas State plans and reducing major quarantines by states, but if the flow of information and discussions are any indication, there was a positive effect. We will continue to work on this.

Thank you for your patience and adaptability to a program that would not stay on schedule. There was great interest in the plans for APHIS' continuing input into monitoring the AHB movement.

I look forward to continuing to work with you, Otha Barham, and many others at APHIS who make my job easier. Many thanks.

Very sincerely,  
Barbara R.S. Callahan  
Special Projects Director  
National Association of State  
Departments of Agriculture

Dear *Inside* APHIS:

Since my office has endured a most unamusing effort this year to upgrade our computer systems, it was nice to encounter one piece of software with a sense of humor.

Are most readers familiar with *WordPerfect*? If you install Version 5.1 and run a document through the program's Spell Checker, it will flag the word "APHIS" as a possible misspelling. Then *WordPerfect* will ask you if you meant to type one of the following words instead of APHIS:

- |           |           |
|-----------|-----------|
| A. aphid  | G. ifs    |
| B. aphids | H. oafs   |
| C. aghast | I. oflice |
| D. efface | J. offs   |
| E. effuse | K. UFOs   |
| F. efts   |           |

This is sheer poetry—or at least tabloid headlinery (UFOS AGHAST AS APHIS OAFS OFF APHIDS: An *Enquirer* story about insectile extraterrestrials defending their Earthly kin?). It mixes the mundane (office) and the obscure (for those, like me, who didn't know, an eft is a newt). I can't wait to see what *WordPerfect* does with all our other acronyms.

Cordially,  
Richard Kelly, PPD-RAD

Although we take issue with reader Kelly on the observation that *WordPerfect* is software with a sense of humor, we cannot resist pointing out, from among the 23 alliterative guesses it made for his "PPD-RAD" organizational identity: PAID POET with PIED PATE POUTS at PAWED PAYOUT from POTTED PH.D. Other possibilities exceed (even further?) the limits of good taste that *Inside* APHIS aspires to.

—Ed.

Dear Editor:

Would you be interested in a human interest story about an APHIS employee that sets the standard for honesty—or something like that?

I am the Regional Computer Specialist for PPG, South Central Region. On August 22 at about 12:40 p.m., I went to the men's room located on the third floor in the building where SCR has its headquarters. As soon as I entered the room, my sight was taken by a bank bag lying on the wash counter. The bank bag looked quite full, and I picked it up to examine the contents. The bank bag had over \$70,000 in it.

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## Inside APHIS

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Call or write the editor with ideas for the next issue by March 31, 1991.

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**Keep the letters coming—also ideas for stories and photos. As space permits, we will print all signed letters, but we reserve the right to edit or rewrite for reasons of space and style. The editor or an APHIS official will answer letters requiring responses. Although we appreciate all submissions, we cannot guarantee that they will be returned.**

(continued from page 4)

My only thought was the owner was going to be in a panic and I would do what I could to find the owner. I first went back to my office and told the two secretaries who sit in the front about what I had found. They immediately advised that I should take the bag to the building manager's office and tell him where and what I had found. We found a deposit ticket inside the bag, with the deposit amount, the name of the bank, and the account number already made out.

It was a simple matter to call the bank and tell them we had a lost bank bag with a large amount of cash in it and needed to find the owners. The bank called the owners, which turned out to be an insurance company down the hall from us.

The person who lost the bag came over right away to claim it. He was in a real panic and he thanked me profusely for returning his bag. He also told me: (1) He didn't miss it till he got to the bank, and (2) he had no idea where he left it. He was really glad to get the bag back.

I've heard that honesty has and is its own reward. In this case it is proving to be true, as the insurance company has come forward with nothing other than a handshake to thank me for my honesty. I don't feel like—"Hey, I was honest, give me something for it!" but they could have at least taken me to lunch.

Michael H. Mason

Dear *Inside APHIS*:

On November 19, I learned that our colleague Dick Winters had died in Buckhannon, WV. Dick, who retired in April 1989, had been battling cancer for some time. Throughout his illness, he kept a positive attitude that was an inspiration to everyone who knew him.

Dick was one of four Fish and Wildlife Service employees who transferred to APHIS headquarters staff with ADC in 1986. Over the next three years he contributed to ADC and APHIS in many ways. He served on the ADC EEO committee and readily undertook all manner of special projects with great dedication.

Dick had a lifelong interest in the environment. He was especially concerned with endangered species and participated in the Kirtland Warbler Recovery Project. He will also be remembered for his work in wood; and those of us who are privileged to have a foot stool, candle holders, or other items made by Dick will treasure them always. He particularly enjoyed making children's toys. Dick was active in the Masons and lived by their creed of brotherly love. He genuinely liked people, and it showed in everything he did.

Our hearts go out to Dick's family—particularly his wife, Mary. We'll miss him a lot.

Bobby R. Acord  
Deputy Administrator, ADC

## Opinion Pieces

We don't expect to see it as a bumper sticker any time soon, but we did entertain the thought: Have you appreciated your agency today? What a multi-dimensional outfit APHIS is!

We have beagles (see photos, pages 2, 27, 35, and 36). We have sophisticated computer programs (page 1). We raise bugs (page 15.) We ride the Rio Grande (page 22). We protect the environment against artificially engineered scourges (page 19), or we engineer protection against natural scourges (page 30). We befriend elephants and chimpanzees (page 34). And—yes, in truth, we hunt coyotes (page 8).

From our perspective in Hyattsville this issue of *Inside APHIS* has a fascinating array of images of APHIS programs: a quart-sized scoop of squirming Mexican fruit fly maggots, fungal dust that would "undo" a cloud of grasshoppers, a beagle assisting a Cabinet-level administrator, a solitary horseman checking for nearly invisible ticks on cattle.

These images are wide-ranging. As APHIS goes about its mission of "Protecting American Agriculture," it must stretch wide. Because American agriculture—the country itself—is diverse, APHIS programs must

be diverse. "Protecting American Agriculture" ranges from inspecting first-class mail parcels to mass-rearing insects and microbes, from delaying the northward movement of the Africanized honey bee to spraying fir seedlings with ground-up starlings.

We think that many APHIS employees share our interest in the APHIS mission and can well explain their own particular program area. To find a place for the expression of that interest, we have created a new, experimental feature in this issue, the "guest opinion." We have inaugurated it with an item explaining the ADC coyote program.

We say "guest opinion" because we want APHIS employees to think of *Inside APHIS* as a forum for their views. We are issuing a general invitation now and hope APHIS employees will think about using this forum to express strongly held beliefs in their programs. We think that "Wily Survivor" serves well as a prototype, in that it is a carefully written discussion of the issue. Not insignificantly, it survived the clearance process! All opinion pieces used in *Inside APHIS* will be edited appropriately and must be okayed by program officials.

Please, give it a try!

Peggy Adams  
Editor



# Retirements

This list includes the names of APHIS employees who retired between April and September 1990. Correction: The last issue of *Inside APHIS* gave incorrect dates for retirements and deaths. The retirements and deaths in that issue occurred between January 1989 and April 1990.

## Regulatory Enforcement & Animal Care

Kenneth Swartz, Investigator, Harrisburg, PA  
Debra Burton, Veterinary Medical Officer, Kansas City, MO  
Mary Clary, Animal Health Technician, Edina, MO

## Animal Damage Control

Shirley Carnahan, Administrative Technician, Portland, OR

## Veterinary Services

William Dean, Veterinary Medical Officer, Lumberton, NC  
Emma Strickland, Animal Health Technician, Louisburg, NC  
Richard Killinger, Animal Health Technician, Lander, WY  
Richard Bowen, Veterinary Medical Officer, Hyattsville, MD  
Ervin Blume, Veterinary Medical Officer, Fort Wayne, IN  
Dorothy Beall, Animal Health Technician, Springfield, IL  
Lillian Schmidt, Animal Health Aid, Rosemont, IL  
Carolyn Rodgers, Supervisory Program Clerk, Frankfort, KY  
William Wood, Animal Health Technician, Nancy, KY  
James Duke, Supervisory VMO, Nashville, TN  
Charles Robinson, Microbiologist, Jackson, MS  
George Tisdale, Jr., Animal Health Technician, Ellisville, MS  
Ralph Jenner, Jr., Veterinary Medical Officer, Norman, OK  
Tillie Perritt, Secretary, Mission, TX  
Moises Anzaldua, Biological Technician, Mission, TX  
Wayne Hughes, Animal Health Technician, Eagle Pass, TX  
James Hall, Veterinary Medical Officer, Fort Worth, TX  
Abelardo Bermudez, Supervisory Animal Health Technician, Rio Grande City, TX  
James English, Animal Health Technician, Laredo AFB, TX  
Arthur McCall, Animal Health Technician, Presidio, TX  
Dean Rawson, Supervisory VMO, Montgomery, AL  
Everett Davison, Animal Health Technician, Darlington, SC  
Edward Zenkovich, Animal Health Technician, Spencer, IA  
Raymond Ciskey, Administrative Officer, Austin, TX  
Elden Odegaard, Animal Health Technician, Rapid City, SD  
David Herrick, Veterinary Medical Officer, Hyattsville, MD  
Cecil Watson, Supervisory VMO, Boise, ID  
Frank Hoopes, Veterinary Medical Officer, Buffalo, NY  
Adalberto Bonilla-Robles, Animal Health Technician, Gurabo, PR  
John Rogers, Animal Health Technician, El Paso, TX

Edward S. Scott, Animal Health Technician, Verona, KY  
*retired December 1988*

## Plant Protection & Quarantine

Philip Bouchard, PPQ Officer, Portland, ME  
Jean Crisp, Budget Analyst, Moorestown, NJ  
Ralph Hancock, PPQ Officer, Charleston, SC  
Adam Muckenfuss, Supervisory PPQ Officer, Charleston, SC  
Mary Caddelle, Secretary, Charleston, SC  
William Roberts, Supervisory PPQ Officer, Unadilla, GA  
Richard Robnett, Supervisory PPQ Officer, Winter Haven, FL  
Sara Hinkle, Secretary, Brentwood, TN  
Ernest Watson, PPQ Officer, Nashville, TN  
Lawrence Lockhart, PPQ Officer, Mobile, AL  
James Webb, PPQ Officer, Jackson, MS  
James Stroud, Jr., PPQ Officer, Houston, TX  
Camey Rahing, PPQ Officer, Nogales, AZ  
Stanley Downing, Supervisory PPQ Officer, Los Angeles, CA  
David Akins, PPQ Officer, Anchorage, AK  
James Thornley, Supervisory PPQ Officer, Phoenix, AZ  
Robert Duke, Supervisory PPQ Officer, Nogales, AZ  
Judithlyne Carson, PPQ Aid, Honolulu, HI

## Legislative & Public Affairs

Grace Dickenson, Correspondence Clerk Typist, Hyattsville, MD

## Science & Technology

Maxine Sackett, Supply Clerk, Ames, IA  
Arnold Johnson, Lab Worker, Ames, IA  
Ronald Yedloutschnig, Supervisory VMO, Orient Point, NY

## International Services

James Kearney, Supervisory PPQ Officer, Canberra, AS  
Felix Reta, Administrative Officer, Hyattsville, MD  
Gary Kipper, Administrative Officer, Mexico City, MX

# Deaths

This list includes the names of APHIS employees who died while actively employed with APHIS.

Lawrence Trombley, Animal Caretaker, Leader, VS, Miami, FL  
Ronald Thompson, Supervisory VMO, VS, Albuquerque, NM  
Sterling Kresge, PPQ Aid, PPQ, Kailua Kona, HI  
Cynthia Reed, Secretary, PPQ, Jackson, MS  
Ikue Ogawa, Chemist, S&T, Ames, IA



# BBEP Conference



*BBEP staff and conferees (top left) visit the site of a field test featuring transgenic tomato plants slated for commercial development. In July 1990 APHIS biotechnology specialists hosted their counterparts from other Federal agencies, 32 states, and 5 foreign countries at the second biotechnology regulatory conference in Sacramento, CA.*

*BBEP Director Terry Medley (top right) visits the field site with Junichi Soejima, Biotechnology Safety Expert with the Japanese Ministry of Agriculture, Forestry & Fisheries; and Keith Redenbaugh, Principal Scientist for Regulatory Affairs, Calgene, Inc.*

*Plant Pathologist Sally McCammon (above left) discusses the scope of biotechnology regulations in the United States with Luther Williams, Senior Science Advisor with the National Science Foundation, and Peter Lange, Bundesministerium für Forschung und Technologie, Germany.*

*Biotechnologist James White (above right) explains properties of test plant to LPA's Public Affairs Specialist Anita Brown.*

*Biotechnologist Ellen Liberman (right) instructs workshop session on data analysis in field release applications.*

*All photos by Laura Smith.*





### Wily Survivor

By Jan Loven, ADC District Supervisor, Ft. Worth, TX

#### Coyote.

The very word nowadays summons a variety of emotional responses in people. They may think of high adventure and the romantic outdoors of the western United States. Or they may be wistful about the past and the vanishing frontier. They may admire or even worship the animal and its cunning; or they may feel disgust, fear—even hatred.

As humans, we tend to put human characteristics onto non-human organisms. But nature is not like that. Nature is resilient or ruthless, beautiful or ugly, sturdy or delicate. But nature is not romantic.

Suffice to say, the coyote exists. He is, while others are not. The list of North American species that no longer exist or whose numbers are greatly reduced is long. But the coyote can howl, "I am."

Certain species of wildlife cause repetitive substantial monetary damages. Usually, these species are not rare, threatened, or in any way endangered. Beavers, blackbirds, rats, mice, raccoons, skunks, foxes, mountain lions, gophers, moles, and bats are a few of them, but the most famous is the coyote.

How coyotes are to be handled to control damage is a complex technical issue. Because it has become a topic in the public forum, we should not oversimplify it.

Many people believe that lack of wild food leads coyotes to livestock depredation. Logic would seem to support such an idea. However, in the many decades of researching coyote depredation, no definite relationship has been established be-



Photo by Guy Connolly.

tween availability of wild food and depredation. Coyotes do not use man's logic.

#### The Extent of the Problem

The extent of coyote damages may never be known. Comprehensive methods for reporting them are not available. Damages reported by ADC personnel are only a fraction of the damages caused by this animal.

In 1987 the Texas cattle industry reported that coyotes caused an estimated 2.2 percent loss of calves across the state. This amounted to \$21 million per year, a conservative estimate. Data are also lacking on losses to fruit crops, pets, poultry, and game animals.

Texas is a state that has long been under the plow. There are very few areas that can be termed wilderness or undeveloped. At one time Texas was a grassland paradise for cattle, but in the ensuing years, woody growth such as mesquite, ash juniper, hackberry, and other brush have replaced protein-rich grass.

This extensive brush not only reduces the productivity of the land but also excessively stresses aquifer levels and causes further erosion. Farms and ranches that were developed with this brush have had their production potential greatly diminished.

Spanish and mohair goats are excellent brush cutters, and many ranchers use them to help control the brush problems on their properties. Coyotes greatly curtail and even stop these brush control efforts by "controlling" the goats.

The coyotes are not the only adverse factor that ranchers face, but they are often the deciding one. One rancher, about 100 miles southwest of Fort Worth, remarked that coyotes would not put him out of business this year, but they would make him financially unable to send his son to college.



## Whose Problem Is It?

The complexity of the coyote problem is not appreciated by either ranchers or the general public. Coyote problems cannot be solved by simply placing traps on a ranch experiencing damage. Without the understanding that an individual producer's problem is a community problem, there will not be a significant curtailing of economic loss.

Political pressures brought to bear have had a definite effect upon the ability of ADC personnel to respond to complaints. For instance, at one time 47 ADC trappers worked within the Fort Worth District. Due to changes in land use, the decline of sheep and goat producers, and the presence of urban absentee landowners, that number has been reduced to 14.

The 14 trappers are expected to give the same amount of protection to cooperators that they provided when the other 33 were still removing coyotes from their respective counties. This is not possible. This is an example of sociological and economic problems.

The desires and efforts of well-meaning amateurs have not helped to reduce economic loss in any area. Sportsmen see the coyote as a wary and worthy adversary, and it is. But random, unorganized, unfunded recreational activity cannot lower economic damage in a given area. The bounty system has never accomplished economic relief, although it often invites larceny.

Technical advances in coyote control seem to have reached a plateau. Much effort and expense have been invested for very little recent gain in field control methods. The Compound 1080 issue is a good example of the political, biological, technical, and sociological concerns that need to be addressed. The latter are lost in distorted and emotional public perception.

## In Fort Worth

The Fort Worth District is a microcosm of these factors. The area is large—270 by 240 miles. It has large human populations in the cities of Fort Worth, Dallas, Waco, Wichita Falls, Denton, Texarkana, and Tyler. It has a substantial cattle industry and, on the southwestern fringe, the largest wool- and mohair-producing region in the U.S.

Within the Fort Worth District the coyote affects a broad spectrum of people, from computer analysts in Dallas to ranchers in Palo Pinto and soybean farmers in DeKalb. Each relates to the coyote problem differently.

ADC uses trappers and also "trouble shooters"—that is, trappers who are especially skillful not only in their trapping abilities but also in public relations and organizational skills. They are not tied to any location, but are free to roam throughout the district and even the state.

These trappers see the natural world as it is. They see the necessity for dealing with wildlife problems objectively and for considering the negative as well as the positive aspects to wildlife management. Formal education does not teach so eloquently what experience provides.

Future strategies for the Fort Worth District will include an increase in the use of trouble shooters to protect cattle. A pilot program further using trouble shooters for cattle protection started in 1986. It has been very successful, greatly broadening the range of producers assisted and the geographical area of the district that is served. Not only have economic losses been curtailed, but very positive public relations results have accumulated.

## The ADC Trapper

ADC trappers in the Fort Worth District come from diverse backgrounds. They may have been plumbers, carpenters, auto mechanics, ranchers, farmers, college students, policemen, truck drivers, landscapers, and factory workers.

They have several things in common: 1) They are wildlife oriented, 2) they work well independently, 3) they have learned to deal face-to-face with the public, and 4) they have learned that being a government trapper is a much more complex job than they ever imagined.

Those who envision themselves as neo-Leatherstockings have quickly had that image dispelled. Public relations are of paramount importance, and they learn that communicating with their cooperators is as important as catching the coyotes doing damage.

There are some individuals that are extremely skillful and intuitive. They are a wonder to behold in the field. Few, if any, professions lend themselves to a mastery of woodcraft as this one does. They take great pride in their abilities and, usually, this pride is well justified.

Most of the trappers are at a loss to understand the public perception of the coyote. They know this creature better than anyone and, to them, the idea that coyotes might require protection or that they prefer rabbits to lambs is ludicrous in the extreme. Being constantly in the field, they witness daily the problems that coyotes inflict upon the public.

The coyote's capabilities should never be underestimated. The experiences of trappers who form the first line of defense in the ADC program quickly dispel any naive concepts or misconceptions as to whether predators only kill what they eat or whether predators control rodents.

Most trappers feel as though they are dinosaurs, relics of the past. They know, however, there will always be a practical need for their expertise as long as livestock and crops are produced. Independence, honesty, directness, competence, loyalty, and compassion all typify ADC trappers. Their personal commitment to their profession is an example to us all.

At a recent meeting, a transferring District Supervisor remarked that the solid commitment and dedication of the ADC trappers allowed all of us to "live the life we believe in." We in ADC believe. □

# Quality Control Specialists of the Visual Kind

By Betsy Nordin, Media Services, LPA

What's it like to be a visual information specialist in APHIS? Well, it's a whirlwind of meetings, phone calls, fax transmissions, shuttle rides between Hyattsville and Washington, layouts, and deadlines. There are always deadlines, most often very tight deadlines. It's the nature of the work.

There are three visual information specialists in Legislative and Public Affairs: Betsy Nordin, Linda Moore, and Mary Ann Hines. We are all based in Hyattsville, and between us we cover the 11 program areas and the Administrator's office, plus occasional work for the Assistant Secretary.

Many people think we are "artists" who draw pictures eight hours a day at our drafting tables. Nothing could be further from the truth.

In plain language, we are graphic designers. It is our responsibility to visually organize information, both text and images, to ensure that it can be read and understood. Occasionally, we have an opportunity to be creative in a "decorative" way. More often deadlines, budgets, and department regulations demand that we practice our true craft.

One of the greatest challenges is to take a complicated manuscript that contains a variety of information in text, tabular, and chart form and design a layout that both conforms to USDA's design standards and enhances the information in a way that makes you want to read it. When we're lucky, we have the use of color to further enhance the readability and interest.

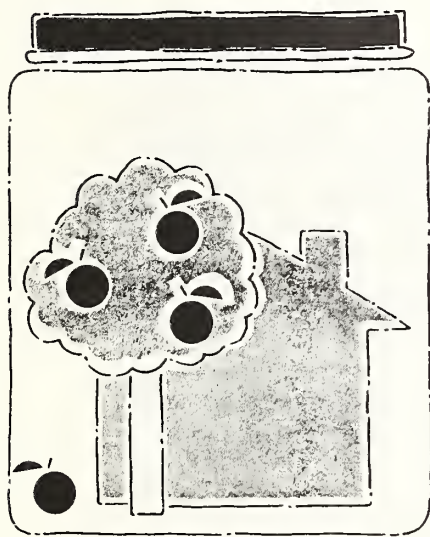
And when we're very lucky, we have high quality photographic images to be printed in full color alongside original illustrations created for a specific publication or exhibit.

We are team players. We must work closely with program specialists, writers, photographers, editors, the USDA's Design Division, contractors, printing specialists, and distribution specialists to make sure the piece meets the agency's needs, is produced well, and gets where it is needed.





Because we are government employees in an age of declining resources, we must wear many professional "hats." In addition to being graphic designers we are also accountants who track job costs and annual budgets. We have, at times, been editorial assistants who write justifications and track manuscripts through internal and department editorial reviews. We have, at times, been printing specialists who write specifications and attend press inspections. In short, we are quality control specialists of the visual kind.



HOME-GROWN  
F·R·U·I·T  
Keep It Or Can It

Add "computer specialist" to that list. The age of "desktop publishing" is upon us. We are spending more and more of our time in front of our PC's, weaving in and out of seven software packages that allow us to "set type" and create final mechanical art for printing without typesetting or pasting up. The computer is a powerful design tool that allows us to test many designs in the time it would take us to render one on paper.

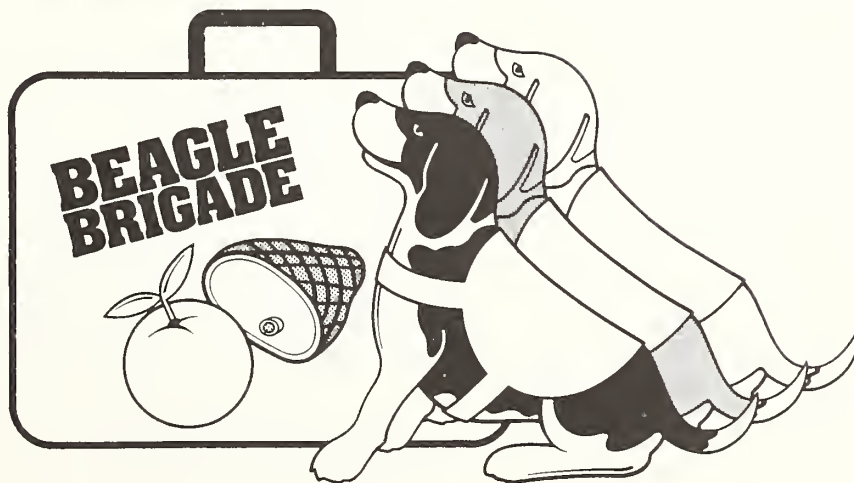
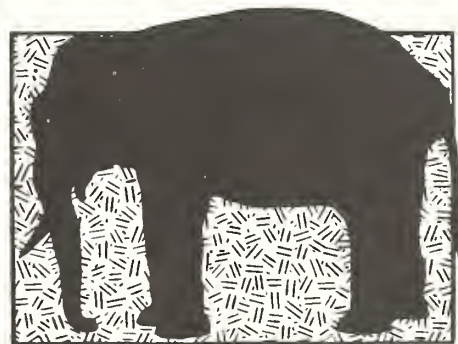
We are also becoming teachers. Because USDA has a department-wide design system, we as visual information specialists are charged with ensuring that all printed APHIS materials conform to the department's Visual Management Manual, the Bible of USDA visual information specialists. As more staffs acquire the hardware and software required to do desktop publishing, we hope to hold a series of seminars to explain the design standards. We hope to avoid having any inhouse agency publications rejected by the department when they are sent forward for printing, simply because they do not follow the standards in the manual.

We also help presenters organize their material for major industry meetings and symposiums through the process of developing presentation graphics and scientific posters. We also advise staffs who are working with desktop presentation graphics.

The work can be exasperating when the deadline or budget, or both, hinder us from accomplishing what we'd really like to do with a publication or exhibit. Our rewards are great, however.

We have a chance to work with many interesting people in all areas of the agency. When the publication comes off press, the exhibit is constructed, or the presentation is on screen, we see the results of our work.

It's a wonderful sense of accomplishment, but we don't celebrate for long. There's another deadline to meet. And another. And another. □



## Eradication, California-Style continued from front page

The project was organized into many departments, including trapping, fruit cutting, identification, fruit stripping and ground treatment, sterile release, data processing, quarantine, aerial treatment, information, administration, and phone banks. Each department had a head who reported to project directors.

Federal project directors from PPQ included David Keim, OIC, Spokane, WA; Fred Meyer, OIC, Corpus Christi, TX; Gary Smith, OIC, Portland, OR; and Reg Rosander, Emergency Projects Coordinator for the Western Region. B.J. Lewis and Mike Wright, both from the Southeast Region office, and Dean Gardner, Western Region-Hawaii, served as Assistant Directors.

CDFA's Assistant Director for Plant Industry Isi Siddiqui served as the state's project director. CDFA deputy project directors included Don Henry and Pat Minyard. County agricultural commissioners who took part were Leon Spaugy, Los Angeles; Jim Harnett, Orange; Ed Layayl, San Bernardino; and Jim Wallace, Riverside. The Federal and state people worked together to oversee the project and to manage personnel.

### How to Run an Emergency Project

Administrative specialists kept the wheels greased and working smoothly. They made sure everyone was paid on time, ordered office furniture and supplies, and assigned vehicles to project personnel. Their duties were varied and many, as personnel changes intensified under pressure from project changes.

They selected project sites that were locally convenient to trappers, quarantine officers, ground and air sterile-fly release teams, and headquarters staff. Each location required extensive coordination and cooperation from the other facilities.

Data processing personnel generated and kept track of the "numbers" for the project. They compiled the "Cunningham report"—a management tool that compared fly finds, aerial bait-spray treatments, and sterile fly releases. They logged the aerial treatment statistics: Number of square miles and gallons of malathion bait used. They sup-



*Jackson trap in host tree.*



*During ground release in core Medfly quarantine areas, irradiated adult flies are shaken from buckets loaded on trucks.*

ported computer systems for the rest of the project.

The information group answered questions from the media; set up radio, television, and newspaper interviews; and coordinated speakers for public meetings. The phone often rang non-stop. Media interest—from college newspapers to television networks—was intense. (See related article.)

The information group also wrote press releases about new fly finds and coordinated press briefings, which were held weekly for four months. In addition, the APHIS group put together a "Keep It or

Can It" information campaign to discourage the movement of backyard fruit out of the regulated area.

Phone bank crews answered the public's questions about the project and the spray schedules. They had notebooks filled with information about treatment areas, malathion, and safety and health risks. Walls were covered with maps of the area. They also received complaints about the project and about alleged malathion damage to cars and property. They took 291,000 calls over the life of the project.



## Needle in a Haystack

Trappers checked traps weekly, unless there had been a recent wild fly find within a square mile, in which case they checked the traps daily. They used three kinds of traps: Jackson, McPhail, and Steiner. Jackson traps are tent-shaped, white cardboard with a pheromone attractant and sticky board. McPhails are a bulbous-shaped glass holding a fermenting liquid that attracts the flies. Cylindrical Steiners use a dry bait to lure the flies.

Trappers recorded where all flies were found and returned them to the project for identification. Over 53,700 traps were used in southern California during the course of the project.

CDFA's Karen Corwin headed the identification group. These specialists examined each fly under microscope in black light to check for the fluorescent dye that signified it was a sterile. If no dye was found, Corwin dissected the fly to confirm that it was wild. This group checked 7.6 million flies during the span of this project, and they found 277 wild flies.

Fruit cutters went to the areas where wild flies were found to check adjacent properties for larvae. They used a long pocket knife to search through the fruit on trees and on the ground. They used a little magnifying glass to check the fruit skin for puncture marks. Brown spots on fruit were also a sign that a pest might be present.

Fruit strippers were sent to properties within a 200-meter radius of a wild-fly or larval find. They would take all fruit material that the Medfly might use as a host.

They also went to public areas like schools and churches that had fruit that might be taken out of the area and thus increase the likelihood of spread of the pest. Fruit strippers collected 208 tons of fruit during the course of the project.

CDFA's Jim Rudig was in charge of aerial treatment. He helped set treatment boundaries, spray schedules, and flight plans, and he coordinated ground crews and helicopter pilots. His group also was responsible for mixing the



Pickers and cutters collect and dissect fruit to discover infestation.



PPQ Officer Grant LaFleur inspects a vendor stand with a number of fruits that are hosts to the Medfly. Quarantine regulations require that fruits in stands be screened. All photos by Laura Smith.

malathion and bait. This crew worked through the night, because the treatments didn't begin before 9 p.m. They released 228,576 gallons of malathion bait mixture over a total of 595 square miles during the length of the project.

Sterile Medfly release was divided into two parts, the roving or "ground" release and aerial release. Roving release crews would show up early in the morning at Legg Lake, load their trucks with cardboard buckets (similar to Kentucky Fried Chicken buckets) full of sterile Medflies, and drive to a specified area to release them.

Planes were loaded for aerial release at the National Guard unit at Los Alamitos. Pilots and planes from PPQ's Aircraft and Equipment Operations, Mission, TX, made the fly drops. Sterile Medflies came from two facilities in Hawaii and one facility in Mexico. (See related article.) Over the 16-month span, 5.8 billion sterile flies were released.

Quarantine officers were responsible for enforcing USDA regulations that set boundaries for the movement of host material to reduce the risk of reinfestation. Regulated agricultural material was not allowed to leave the composite 1,330-square-mile quarantine area for fear of possible spread of the pest.

Regulatory officers secured compliance agreements from markets and stores within the boundaries for proper display and disposal of fruit. Over the course of the project, the regulators obtained 6,171 compliance agreements and confiscated over 775,000 pounds of fruit.

All of these actions were in addition to the ongoing AQI efforts at airports, the Mexican border, and elsewhere in southern California.

On Nov. 8, 1990, Federal, state, and local officials—including Deputy Secretary of Agriculture Jack Parnell and CDFA Director Henry Voss—held one last press conference. They announced the completion of the 1989-1990 Cooperative Mediterranean Fruit Fly Project. And everyone who worked on the project could sing a new song: "Celebrate good times! Come on!" □



# Another Smoggy Morning

By Natalie Bosecker, Public Information, LPA

It's another smoggy morning, and we're on the freeway headed towards the project. The air is so thick that you can't see the mountains—you can only see the bumper-to-bumper traffic surrounding you on all sides.

We've got the morning caffeine requirement and morning newspapers that we picked up at Denny's—two vitals needed before leaving for the project headquarters at Legg Lake.

So begins another day for information officers on the Cooperative Mediterranean Fruit Fly Eradication Project. I would say a typical day, but the days in southern California were only typical in that each was different.

Upon arrival at the temporary office—that is, one trailer among many, connected by plywood walkways—we would scan the area newspapers. Finding Medfly news usually wasn't too difficult, since it was almost always on the front page. We would scan the articles to see what project officials said—and what the papers printed that we said.

After the articles were clipped and copied, it was time to make the morning rounds, delivering the news and talking to the bosses. The newspaper clips and video clips from the night before usually set the tone for the day.

By the time we were getting our second jolt of caffeine, the phones would start ringing. Spray schedules, quarantine boundaries, and new fly finds would be the heavy items. As soon as one story was finished, the reporters would call back, trying to find another angle.

The path to the director's office was well worn. All sorts of information was posted on the walls, just waiting for us to figure out what questions it answered.

This was where we found the maps—many different maps of fly finds, spray areas, quarantine areas, and trapping areas. We would check them, recheck our information, ask new questions, plan new strategies—anything that would allow us to get positive, accurate information about the project out to the public.

When the nerves started to go, it would be time to escape for lunch. Lunch usually meant a quick bite to eat while discussing Medfly business. Then—back to the trailer to answer the stack of phone messages waiting for us.



Photo by Laura Smith.

We would work closely with the department heads, always asking questions. We often heard them groan when we entered the door, but we kept the smiles on our faces. They knew our presence usually meant looking up information or putting them in front of a TV camera or radio microphone.

The afternoons were long as we got information out in time to meet print and video deadlines. Foul weather on a treatment night would start the phones again. Each reporter wanted to know if the treatment would go on as scheduled and wanted to be the first to know it.

About 6 p.m. we would turn off the copier and lights and wave at the security guard as we drove out of the project complex. Most dinners were spent working out some detail or preparing for the next day.

Many nights we would head out to the airport to arrange interviews and answer any media questions before the helicopters with the bait spray lifted off for their nightly flight

over the Los Angeles area. Reporters knew the basic ground rules: Stay behind the barricades, and don't use bright lights or flash photography when the choppers are taking off or landing. Although these rules were well established, some reporters were always trying to see how far they could be stretched.

The information group did develop a basic weekly pattern. Mondays were spent planning the weekly press briefing. Tuesdays, we prepared possible questions that the media might ask, so we could brief the speakers. Wednesday mornings heralded the briefing itself. Thursday mornings, we attended the weekly staff meetings; and Fridays, we all breathed a huge sigh of relief. Saturdays, we caught up on all the paperwork we hadn't gotten done during the week.

In addition, we had the ongoing daily tasks of answering up to 50 media calls apiece, writing and distributing news releases, coordinating individual interviews, and keeping maps and spray schedules up to date.

Even though the project was a huge sprawling monster, there was a feeling of camaraderie and cooperative spirit. Days were similar in that there was nearly always a crisis. Among the most memorable crises were those involving the Crystal Cathedral exemption, the endangered kangaroo rat, protesters, sterile Medfly shortages, and alleged overspray incidents.

One of the things we dreaded most was the sight of Karen Corwin, the CDFA taxonomist, walking towards the director's trailer. Karen was in charge of the identification staff, the ones who sat in black light and counted the trapped sterile Medflies. Her presence usually meant that a fly had been found with no fluorescent dye—a wild Medfly, our worst enemy.

But then, our reaction to Karen was probably the same as everyone else's reaction to us: Here comes bad news!



# The Flies Have It

Last summer APHIS was in the business of producing 40 million sterile Mexican fruit flies—every week.

That's three quarters of a ton of fly flesh. Think of it as an artificially engineered creature, about the weight of a sizable Holstein, marked for identification in fluorescent "Blaze Orange," springing full-grown from the brow of science.

A new one every week.

How does PPQ's Mexican Fruit Fly Rearing Facility in Mission, TX, create such a phenomenon? APHIS employees there use secured rooms to prevent accidents, plenty of water for flushing and feeding, fiber glass trays, various temperatures and relative humidities, sealed plastic bags, and the all-important irradiator at the exit point.

And it takes a lot of people. According to facility Director John Worley, the eight employees, including himself, who routinely staff the facility are a skeleton crew. "We can maintain fly production at 10 million per week when we don't have emergencies, like the two in San Diego and Los Angeles last summer. During emergency production, our staff goes up to 22 people."

Worley says that at minimum production the rearing facility supplies sterile flies for three suppression programs year round. "We send about 6 million a week to Tijuana, just across the border from San Diego, and another 3 million to La Paz, Baja California Sur, farther south.

"We also supply 3/4 million flies locally, on the Mexican side of the lower Rio Grande Valley. They don't grow fruit there commercially, but juicing and retail facilities bring in fruit from infested regions farther south.

"It's not feasible to eradicate in these areas right now," Worley explains, "because of the likelihood of reinfestation. But if we suppress these populations of wild Mexican fruit flies, we can minimize the numbers that cross the border into our fruit-growing areas."

Worley's staff includes Rearing Supervisor Fred Tamez, Quality Control Technician Jose Garcia, Office Services Clerk Aurelio Garza, and Biological Aides Joe Perez, James "Dusty" Rhodes, and Heliodoro Lopez.

## The Reproductive Path

The process starts with an oviposition, or brood, colony of about 2 million fertile Mexican fruit flies, maintained for the purpose of producing eggs. Each week Tamez separates about 400,000 pupae (the inactive stage of fly development, which immediately precedes the adult stage) from the rest of the production process.

"We dye these blue to distinguish them from the steriles, in case they escape," says Worley. "But we keep them in a secured room to minimize escapes."

The room is secured with airlocks and fly paper, and traffic in and out is controlled. The flies are kept in cages for the five weeks of their adult stage and fed a sugar-yeast mixture.

About two weeks after the females emerge as adults, they begin laying eggs on a broadcloth panel that forms one side of their cages. The flies show a preference for maroon-colored panels. The panels are waterproofed with rubber cement, to the effect that they look like large grape fruit-rolls.

The panels are contained within air-tight humidity-controlled boxes that keep the eggs from drying out. Perez removes the eggs daily by spraying the panels with water and collecting them through a funnel.

The eggs are suspended in a water and agar solution at the rate of about 18,000 eggs per 10 ml of solution. Perez soaks cloth strips with this suspension and incubates the eggs for four days.

As eggs they are moved to the diet dispensing room, where Rhodes places them on fiber glass trays with about two gallons of "diet medium." They emerge as larvae, the little white maggots that AQI inspectors are trained to spot in confiscated fruit.

The medium is a gloppy brown mush that looks like gingerbread batter. It consists of water, dehydrated carrot powder, sugar, torula yeast, and a bulking agent, usually corn cob grits.

## The Environment of a Grapefruit

It also includes hydrochloric acid to control bacteria growth, a natural because the larvae are adapted to the acidic environment of, say, a grapefruit. It includes the standard sodium benzoate and methyl paraben, used in prepared foods to inhibit mold growth. The rearing process requires about 2,500 gallons a week of diet to feed all the flies.

Each tray holds about 55,000 eggs. They stay in the dispensing room for five days, eating voraciously, molting twice, and together creating a metabolic heat of about 80 degrees.

In the next room the temperature is kept at 75 degrees by ceiling fans and air conditioning. The larvae are kept four more days, during which they develop to maturity. On the ninth day each tray has about 32,000 fully matured, wriggly larvae, each an average 1/2 inch long.

The contents of the trays are then flushed through a sieve into a 500-gallon tank. The larvae are separated from the diet medium with compressed air and water.

Next, about two liters of larvae are placed in about four liters of vermiculite in fiber glass trays. The larvae burrow to the bottom of the vermiculite and pupate, going into an inactive growth stage during which they look like shellacked puffed wheat.

The adults normally emerge in 16 days, so at 14 days the pupae are separated from the vermiculite by a screen tumbler. The vermiculite is reused for up to six months.

The pupae are again placed on fiber glass trays and kept in a chilling room at 68 degrees for two hours to reduce activity. About 100,000 pupae are mixed with the powdery orange dye and placed in

*(continued on page 18)*

## Rearing Facilities

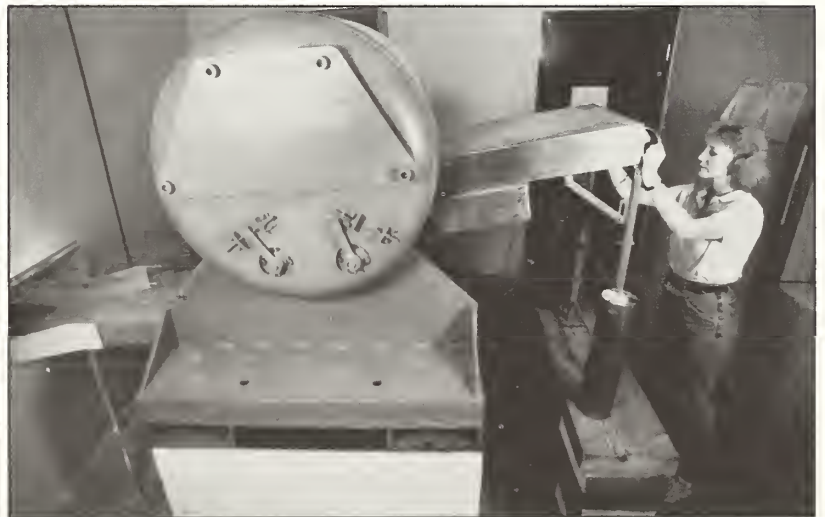


*In Mission (left), Biological Aide Joe Perez sprays waterproofed panels; Mexican fruit fly eggs wash out of the funnel into the buckets below. In Walmatalo (below), Medflies lay eggs on cylindrical egging tubes that can also be flushed; Facility Director Glenn Hinsdale collects eggs in containers.*

*Supervisory Biological Technician Wesley Sawamura (bottom left) places clumps of Medfly eggs on paper strips in trays containing a sugar-and-yeast concoction that will help them flourish. The facility has a gigantic diet mixer (bottom right) with an inclined auger to load ingredients.*







*The last grains of diet medium are flushed from Mexican fruit fly larvae (top left). These larvae will be placed in trays with vermiculite to pupate. The Waimanalo facility uses this rotator (top right) to mix Medfly pupae and fluorescent dye; they are then packed in plastic sleeves.*

*In Mission Supervisory Biological Technician Fred Tamez (left) packs Mexican fruit fly pupae into plastic sleeves, which will be placed in cylinders for the irradiator, above his head. Biological Technician Lorraine Treiber (above right) places cylinders with Medfly pupae into irradiator.*

*All photos by Laura Smith.*

sealed plastic bags. The insects quickly reach a state of hypoxia, that is, they are "knocked out" (but unharmed) from lack of oxygen.

After two more hours they are irradiated with 7 kilorads of gamma radiation from Cesium-137. Although the Mexican fruit fly is almost twice as big as its cousin, the Mediterranean fruit fly, sterilizing it takes only half the dosage of radiation.

The bags of irradiated orange pupae emerge into the unsecured part of the facility, where Lopez loads them for shipment to their destination. Once there, they are removed from the bags and put in plastic emergence containers.

Once they emerge as adults, they are chilled to make them inactive. They are then loaded in specially designed release machines and flown by airplane over the treatment area.

### Keeping Control

"It is a large-scale operation," Worley says, "and when things go wrong, they go wrong on a big scale." The operation's major concern is air-borne yeast infection that can overcome diet mediums, wiping out flies in all stages and all parts of the facility.

Worley says that the Agricultural Research Service tests the oviposition colony yearly to assure that the home-bred flies can hold their own against their wild competition. They are released into field cages at an ARS facility in Mexico with naturally infested citrus trees, where they are monitored for their ability to survive and mate with wild flies.

"The rearing facility flies that aren't sterilized are more competitive than the wild flies," Worley says with evident pride. "And the ones that are sterilized are only slightly less competitive. We can send them out into the world knowing they'll do their job!" □

## Zapping The Pesky Pest

*By Fred Smith, LPA, Honolulu, HI*

The Medfly is one of the world's most destructive pests, attacking over 200 species of fruits, nuts, and vegetables. Its uncontrolled presence in the U.S. could severely disrupt the \$12.3 billion fruit and vegetable industry. Estimated annual losses in the U.S. attributable to an established fruit fly infestation would exceed \$800 million.

Under optimum conditions the Medfly can complete its life cycle from egg to sexually mature adult in three weeks. At the Waimanalo facility, the rearing process starts with preparation of screened cages that hold up to 480,000 adult males and females feeding on a mixture of sugar and yeast and producing up to 5 million eggs per cage per day. At maximum production, up to 450 million eggs per day will be produced in the facility.

The eggs are collected daily, added to a tray holding food for the larvae, and moved via a monorail system to humidity- and temperature-controlled rooms. (Temperature can be used to control the length of the life cycle.) As the larvae mature, they constrict their bodies into a C-shape and pop out of the food trays. They are washed along the floor and then filtered from the water.

In nature, the Medfly undergoes the pupal stage of its life cycle in the soil. At the facility, vermiculite is used. After two days the pupae are sifted out of the medium and placed on screen trays. The shortest time between egg and mature pupa at the facility is 14 days.

The pupal cases are then dyed with a red dye that reacts to ultraviolet light and becomes incorporated into the adult's body when it emerges from the case. The sterilized flies can thus be distinguished from the non-sterile flies at eradication sites.

The flies are sterilized by exposing the pupae to the radioactive isotope Cesium-137, contained within a lead-shielded cylindrical apparatus. The pupae are then packed and shipped to eradication projects. The adults emerge at the eradication site and are released to mate with the wild non-sterile flies.

When in full operation, the new 35,000-square-foot facility will be able to raise up to 500 million flies per week, according to Project Director Glen Hinsdale. Its first priority was to provide flies for the control of the Medfly in California, where continued outbreaks of the pest over the past several years have cost millions of dollars.

Now that the California Medfly project is completed, Hinsdale says, the facility will support efforts to eradicate the Medfly in the state of Hawaii and at other locations throughout the world where its presence jeopardizes agricultural production.

"The Hawaii facility is designed to meet present needs, have emergency capability, and support ongoing future research," Hinsdale says. "It can operate in a standby mode of 50 million flies per week."



# Environmental Documentation: Protecting the Environment

By Jane Montgomery, *Environmental Documentation, BBEP*

"I think of Environmental Documentation as APHIS' environmental watch dog," explains Michael Werner, Deputy Director for Environmental Documentation (ED). "We review all of APHIS' programs and analyze the effects of these programs on the human and wildlife environment, water and air quality, and natural resources."

Established in 1988 as one of the five units under Biotechnology, Biologics, and Environmental Protection (BBEP), ED's primary responsibility is to make sure that APHIS programs comply with the National Environmental Policy Act (NEPA) and other environmental regulations, executive orders, and statutes.

NEPA, passed in 1970, is the primary Federal statute for the protection of the environment. NEPA requires that all Federal agencies evaluate their actions to determine if those actions could have a significant effect on the environment.

"NEPA helps Federal agencies make better decisions," Werner remarks, "by forcing them to consider the effects of their programs on such things as soil, water, air, vegetation, endangered species, wildlife, fish, insects, and human health and safety."

## Documenting Impacts

If a program run by a Federal agency is found to have an impact on the environment, the agency must prepare an environmental assessment (EA). If the program will have a significant effect on the environment or if the impacts are likely to cause considerable public controversy, a more detailed environmental impact statement (EIS) must be prepared. EA's and EIS's are analytical documents that give an environmental analysis of proposed and alternative actions.

"Our responsibility in ED is to prepare these documents for APHIS programs," says Werner, a biologist and an attorney. "Most of APHIS' EA's are prepared internally, either directly by ED or by other staffs within APHIS with guidance from ED. The EA's tend to be short.

"On the other hand, most of APHIS' EIS's are contracted out. If we were to prepare these lengthy documents ourselves, we would need a staff three times the size we presently have. An EIS can be 1,000 pages or more. The contractor does literature searches and analyses of materials and methods we recommend for a particular program and determines the risks involved.

"After the contractor writes the EIS," Werner says, "my staff reviews it and returns it to the contractor with corrections. The entire EIS process can take longer than two years.

"This is an essential part of ED's work," he continues. "If an agency fails to comply with NEPA and does not prepare an EIS when a program has a significant impact on the environment, a Federal court can

*(continued on page 20)*



BBEP's bosses for the Environmental Documentation section: Deputy Director Michael Werner (lower left) and Project Leaders Harold Smith and Nancy Sweeney. Not pictured: Project Leader and Senior Staff Officer Bob Pizel. Photo by Laura Smith.

## Environmental Documentation continued from page 19

place an injunction against the agency and stop its program.

This happens with some frequency. APHIS has been involved in several lawsuits, including suits against the grasshopper, gypsy moth, and boll weevil control programs."

In the last two years Werner's staff has developed several comprehensive EA's. They include analyses of APHIS' decision to authorize field testing of a live, virus-vectored rabies vaccine and the control of rangeland grasshoppers on the USDA-regulated land in the Conservation Reserve Program.

Many other analyses are currently underway, including the development of EIS's for the Nationwide Boll Weevil Cooperative Control Program, Cooperative Medfly Eradication Program, and Destruction of Contaminated Carcasses Program.

In addition to the preparation of EA's and EIS's, ED reviews proposed APHIS regulations for compliance with NEPA, trains other APHIS groups in NEPA procedures, prepares biological assessments to insure compliance with the Endangered Species Act, and tracks pending environmental legislation to evaluate its impacts upon environmental procedures.

Because many APHIS programs are in cooperation with or affect other agencies, ED has frequent contact with other agencies within and outside of USDA. ED consults on environmental matters with USDA's Forest Service, Soil Conservation Service, and Economic Research Service as well as with the Bureau of Land Management (BLM), Food and Drug Administration, National Institutes of Health, U.S. Agency for International Development, Environmental Protection Agency, and Fish and Wildlife Service (FWS).

### Technically Proficient Staff

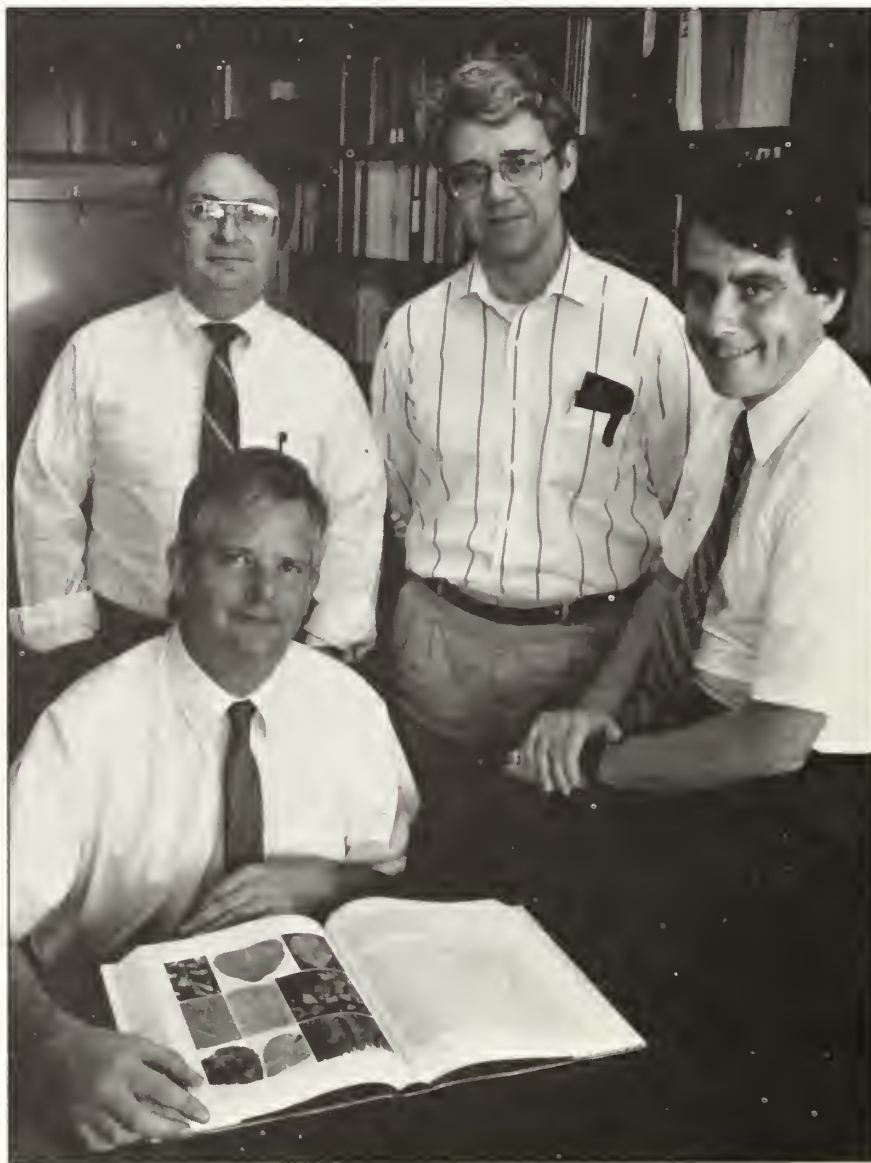
To carry out its work, ED has a multidisciplinary staff of 19 that includes Werner, three project leaders, six technical specialists, three editors, a cartographer, a computer specialist, and four secretaries.

"A highly educated and technically proficient staff is necessary for critical analyses and documentation that are based upon original database research," Werner says. "We have experts trained in entomology, toxicology, microbiology, general and aquatic ecology, fisheries and wildlife biology, limnology, animal physiology, and the law. And these technical specialists are trained in environmental risk analysis and management."

ED's Senior Staff Officer Bob Pizel is a project leader with a degree in forestry, advanced study in wildlife management and range

management, and many years of experience in environmental documentation at BLM and the Forest Service. He is coordinating the unit's efforts on the EIS for Animal Damage Control and EA's for grasshopper control, gypsy moth control, and eradication of common crupina (a noxious weed).

Harold Smith is a project leader with an advanced degree in biology and previous experience as a PPQ Officer in Charge. He currently coordinates staff efforts on the EIS for the National Boll Weevil Cooperative Control Program, the EIS for the Medfly Cooperative Eradication



Technical Specialists with BBEP's Environmental Documentation staff (clockwise from lower left): Charles Dixon, Ron McClendon, Orrey Young, and Charles Brown. Photo by Laura Smith.



Program, and the analysis for the Guatemala MOSCAMED Program.

Smith says of his work, "I feel we have an important and difficult job to do in protecting the environment and safeguarding American agriculture. Both environmental and program needs must be met if our programs are to be a success and we are to serve the best interests of the public. We have an outstanding staff and excellent resources. This is the kind of unit I have always wanted to be a part of."

Nancy Sweeney is a project leader with formal training in biology, expertise in consultation procedures, Section 7 of the Endangered Species Act, and many years of experience with FWS. She is responsible for making sure APHIS programs protect threatened and endangered species.

Sweeney says, "Many people misinterpret the purpose of Section 7. Its purpose is not to stop Federal actions but to allow them to proceed. If a Federal program could adversely affect threatened or endangered species, the Fish and Wildlife Service will suggest protective measures."

The six technical specialists on ED's staff are David Bergsten, Charles Brown, Charles Divan, Ken Lakin, Ron McClendon, and Orrey Young. They are responsible for providing the technical evaluation of programs, proposals, and actions for environmental effects. This activity may involve searching published literature, consulting with other agencies, and discussing issues with other scientists or knowledgeable individuals.

Staff toxicologist Bergsten reviews exposure assessments, hazard evaluations, and risk assessments from a toxicology standpoint. He says, "I am the type of person who likes to get involved with a variety of thought-provoking challenges, and we have plenty of them.

"We have to consider not only the environmental impacts of our program, but also the social, economic, and political impacts. And we must consider the most effective options and the latest advances in available technology to fulfill the goals of a program and to analyze how each one affects humans and the environment."

Charles Brown is ED's expert in aquatic ecology. Before joining APHIS he was an FWS fishery biologist and botanist doing research on the Great Lakes. His ED projects include environmental issues of transgenic fish and aquaculture.

Microbial Ecologist Charles Divan has previous research experience with toxic marine dinoflagellates (which cause red tide) and sulfur cycle bacteria in the Chesapeake Bay. He does environmental microbiological analyses of USDA programs.

Entomologist Ken Lakin works on projects that involve biological control, especially with fruit flies and pollinators. Handicapped from polio since he was six, Lakin says, "It has been an exciting challenge to pursue my interest in entomology this far. I have not viewed my disability as an impediment, and ED employees have confirmed that by treating me as they would any other co-worker." Lakin participates in the pilot Flexplace Program, which is studying the possibilities of allowing employees to work at home.

Wildlife management biologist Ron McClendon, also previously with PPQ, is ED's expert in threatened and endangered species. He prepares or reviews biological assessments for threatened and endangered species and coordinates consultations with the FWS in accordance with the Endangered Species Act.

Orrey Young, Terrestrial Ecologist for the staff, comments, "Four of our technical specialists have come from research jobs to analysis and review positions in ED. After 20 years in research I find it challenging to use that experience to analyze and evaluate APHIS' programs for their impact on the environment."

Young recently completed an environmental assessment on the imported fire ant. He was recently certified as a Senior Ecologist by the Ecological Society of America and elected a Fellow of the Royal Entomological Society of London.

Writer-editors Jane Montgomery and Sherry Lowe edit EA's, EIS's, and staff reports; rewrite manuals; and draft speeches and newsletters. Cartographer Brian Sterk creates maps and charts for BBEP, while Computer Specialist James D'Ambrosia assists BBEP with computer needs.

The four secretaries, Deborah Miller, Deborah Overton, Vickey Torres, and Eric Gardner, provide clerical and administrative support to Project Leaders and the Deputy Director. In addition, they can be called upon to attend public hearings and give editorial assistance.

## **Establishing Guidelines**

"This is a new staff," observes Werner, "and not one of us is doing exactly the same kind of work that we did before we came here. Because we are all working in a new unit, management and new procedures have had to be worked out. We've had to determine our needs and establish our own guidelines.

"This is a staff that is highly motivated by the challenge," he said. "But I know in the process we will all be striving toward the same goal—to improve APHIS' programs so that they will be not only successful but environmentally safe." □

### Horacio Garza, Animal Health Technician, Hidalgo, TX

By Estela Bock, Public Information, LPA

Most days, even when the heat is overwhelming, you will find Horacio Garza riding his horse along the Rio Grande. He wears a wide-brimmed hat, chaps, high leather boots, and a pistol in his holster belt.

The USDA badge that he proudly carries secured to his belt shows that he is not just a rancher passing by. He is a mounted patrol inspector with a very important mission: to help protect the cattle industry of the United States by patrolling the U.S.-Mexican border on horseback, in search of stray Mexican cattle that may carry fever ticks.

His usual work day starts at six in the morning. Garza saddles his horse and assembles his pistol, a radio, and a machete. The geographical area where he travels is remote and desolate and has a reputation for being a crossing point for smugglers and illegal aliens.

For this reason in 1982 the House Agriculture Committee endorsed legislation giving mounted Federal livestock inspectors, also known as "tick riders," the right to carry guns while performing their official duties.

Mexican ranchers graze their livestock near the Rio Grande River in order to make watering the cattle more convenient. Many cattle wander across the narrow, shallow river from the over-grazed Mexican pasture to the more lush vegetation on the American side.

Garza's job is to seize these cattle, because they come from the tick-infested side of the river. The animals are then transported to pens for examination. "We test them for brucellosis, tuberculosis, and whatever, especially for fever ticks. Most of the time, we find ticks," says Garza.

"If the cattle do have ticks, we dip them in a chemical solution. Then, all pastures that they have wandered through—and adjacent pastures—must be vacated and quarantined," explains Garza. Mexican ranchers can get their livestock back by paying the feed bill.

"In inspecting an animal for ticks, I use my fingers as well as my eyes, for often a tick that cannot be seen may be felt," says Garza. "Female ticks, ordinarily much larger than the males, are easier to find. Careful scrutiny of the area near the female tick frequently will also reveal a tiny male tick. Finding ticks on an animal often requires careful examination of all parts of the animal."

Although cattle are the preferred hosts for the tick, they are not the only ones. Horses, sheep, goats, and deer can also carry them. The tick reproduces at a fast rate, with several thousand offspring produced in a relatively short time. Moreover, the tick can survive long periods without food.

The surveillance process involves patrolling on horseback in the country along the Rio Grande looking for cattle, horses, and other livestock that have crossed the river. "The machete we carry is a heavy knife with a broad blade, and we use it to cut vegetation," explains Garza. "The terrain is very rough in places. The radio we carry is a hand-held unit that allows us to communicate with other patrols."



APHIS inspectors "scratch" cattle to check for ticks as cattle pass through a squeeze chute toward a dip vat. There they will swim in a treatment solution that includes the insecticide coumaphos. Checking and treating stray cattle for cattle fever ticks is a primary duty for APHIS' tick riders, including Garza. Photo by Chuck Herron.



Garza is one of APHIS' most experienced animal health inspectors. For 43 years he has worked with APHIS veterinarians, assisting in all kinds of emergency outbreaks. Garza works primarily in Hidalgo County, Texas. He has also worked in Webb, Zapata, Starr, and Dimmit counties and sometimes in other counties in and out of Texas.

Garza came to work for APHIS after serving in World War II. He fought on the front lines and was wounded on the French-German border. Garza's four brothers also survived action in the Pacific and European theaters. Garza was honorably discharged from the Army in 1946. He says that the survival skills and training he gained in the military made him a natural for the job.

From 1947 to 1955 Garza worked for the Foot-and-Mouth-Disease (FMD) Eradication Program along the Texas/Mexican Border. He worked out of a camping area along the Rio Grande. "In those days our working conditions were

very primitive; there were no means of communication and no electricity. Cooking was done on a campfire and any fresh meat was game, such as fish, wild turkey, quail, and wild hogs. Light for the camping area was provided by a gas lantern.

"In spite of the circumstances, keeping my clothes clean was not a problem," Garza recalls with a smile. "There was this nice lady across the river on the Mexican side. She would send her husband to pick up my clothes so she could do my washing and ironing. The river was shallow, and he could walk across on the rocks.

"Two years later when the workforce along the river was doubled, I got a partner," he continues. "We used to ride from 4 o'clock in the morning until 7 at night. At that time we shot and killed any animal crossing the river from Mexico. We burned and buried them. We continued this work until January of 1955, when FMD was eradicated."

In March 1955 Garza began to work for the Tick Eradication Program. He admits that his job can be dangerous at times. Mexican ranchers find the process of retrieving their cattle to be a time-consuming nuisance.

Mexican cowboys often cross the river to confront the tick inspector in an effort to prevent a seizure of the livestock or to recapture the seized animals. There have been cases in which Mexicans have fired shots across the river in an attempt to drive off the inspector.

Presently, there are 8 inspectors in Hidalgo, where there used to be 14. Budget limitations have prevented filling these vacancies. "Sometimes, I feel like I am doing the work of at least three inspectors. But I love my job and I don't mind doing what is necessary," Garza says.

Garza explains that better means of communication and roads have improved the conditions of his work. "Now it is easier," he says. "I remember the time when I was stranded in a camp site for three weeks because of the rain. The region was flooded and I was there with no groceries, nothing." He lived off the land.

Cattle fever ticks have been eradicated from the United States—except for a small, narrow quarantine zone along the Texas/Mexican border. Even so, the quarantine zone is periodically reinfested from adjacent, heavily infested areas of Mexico.

As long as there are cattle fever ticks in these areas, Horacio Garza and others like him who patrol the border will continue to be a valuable asset in APHIS' efforts to safeguard American agriculture. □

## **Boophilus annulatus: The Cattle Fever Tick**

After it was determined that the cattle tick (*Boophilus annulatus*) was the carrier of cattle tick fever, the U.S. Department of Agriculture Tick Eradication Program was instituted in 1906. In the beginning of the eradication program 985 counties in 15 states were placed under quarantine, and the annual loss in 1906 was estimated at \$40 to \$200 million for the developing southern cattle industry.

Cattle tick fever results in high temperature, depression, and loss of appetite and body weight, to the point of coma and eventually death. Animal mortality may be as high as 90 percent in severe outbreaks.

By 1943, the cattle tick had been eradicated in all states, with the exception of a large area adjoining the Texas-Mexican Border on the Rio Grande River. Both the Federal government and the state of Texas have placed under quarantine an area extending several miles from the border. This area is the "frontline" for current tick eradication efforts.

### A Day in the Life: Jean Reilly, Secretary to the Administrator



First thing in the morning, before Jim Glosser and Bob Melland arrive at APHIS' headquarters office, Secretary Jean Reilly creates a little quiet to start her day.

Her office is on the north side of USDA's Administration Building. From her windows Reilly can see the Mall, the grassy park between the Washington Monument and the Capitol. Other early-bird government employees are moving about on the Mall, getting the jump on the daily commute.

She puts on a pot of coffee and checks the mail, separating the items that go to the Assistant Secretary's office. She'll deliver them herself on her routine morning walk.

She then types up the Administrator's schedule, reviewing the day to come. A typical day for the Administrator might look like this:

9 a.m.	AMT Conference Call
10 a.m.	Assistant Secretary's Staff Meeting
12 noon	Lunch in Secretary's Dining Room with Canadian officials
1:30 p.m.	Courtesy visit with Chief Veterinary Officials of New Zealand
2 p.m.	National Milk Producers' Association
3 p.m.	Meeting with Canadian Officials
4 p.m.	Various APHIS issues with Assistant Secretary Jo Ann Smith

On Mondays she sits in on a conference call with the APHIS Management Team (AMT), before Glosser goes to the Assistant Secretary's Staff Meeting for agency heads. On Thursday afternoons she keeps the minutes at the regular AMT staff meetings.

Routinely, Reilly serves as a liaison for the Administrator by handling inquiries from the Secretary's and Assistant Secretary's offices, Congressional representatives, and constituents from business groups, animal-welfare interests, cooperators, and research institutes. She deals with APHIS employees and former APHIS employees—as retirees, consultants, or stakeholder representatives.

Reilly reviews and screens correspondence, sending it to appropriate staffs for handling or making sure it is in proper format for Glosser's signature. She provides instructions to other secretaries on preparation of correspondence, reporting requests, and procedures. She exercises control over the Administrator's calendar, with the authority to make commitments for him on appointments, trips, and meeting schedules.

#### Top Secretary

Jean Reilly's job is the top secretarial position in the agency, but she has a pragmatic, modest attitude toward that distinction. "I don't think I have any special privileges," she says. "I wouldn't ask anyone to do anything that I wouldn't do or haven't done. Basically, my secretarial duties are the same as they would be anywhere, only the level of contacts is somewhat different.

"I don't type as much as I did in my other positions—I spend more time coordinating, following up, and trying to keep things moving smoothly and in an orderly manner. I am on the phone a good deal of the time—answering questions, setting up appointments, sometimes canceling them, and coordinating activities. We deal with a lot of people in this office."

Reilly has a clear idea of what secretarial work is like in other areas of APHIS. Her first job out of school had brought her, on her birthday, from the coal-mining town of Spangler, PA, to work as a GS-3 secretary for the Assistant Chief Staff Officer, Regulatory Operations, with the old Plant Pest Control Division (now Plant Protection and Quarantine). At that time what was to become APHIS was part of the Agricultural Research Service, and Reilly worked and lived in the District of Columbia.

With the Plant Protection Division she moved to Hyattsville, MD, and was eventually promoted to head secretary of the Regulatory Operations Staff. Reilly remembers with fondness the group of people she worked with in Hyattsville. "I'm a very family-oriented person, and I also thought of them as my family," she says.

Reilly was so fond of them that she changed her mind about taking a new job with the Treasury Department. "They had taken me to lunch and given me a nice gift," she says, laughing at the memory. "But on the very last day they talked me into staying, and I couldn't and didn't leave. I had to reimburse our club for the gift, but the meal was free!



"There is never a dull moment with APHIS people. I have found them to be very nice, caring, hard-working people. I'm glad I'm still one of them."

Reilly eventually did leave Hyattsville, for a temporary position with the Administrator's Operations Review Staff during the reorganization of 1971. While she was in Washington, she was selected as secretary for the PPQ Deputy Administrator.

One of the PPQ Deputies that Reilly worked with was Jim Lee, currently PPQ's Northeastern Regional Director. Lee remembers Reilly well, too.

"Jean is one of the best office managers I have ever worked with," Lee says, "and she works like a Trojan. She had a lot to do with 'housebreaking' me for work in an office. She taught me office routine and kept my schedule running smoothly."

Reilly went with Lee to the Office of the Administrator when Lee became Associate Administrator in 1980. She assumed her current position when then-Administrator Bert Hawkins was looking for a secretary in 1983.

"I could talk about how efficient Jean is, or how well organized she is," says Glosser, her current boss. "Because it's true—she is outstanding at controlling the work through the office, and I would be totally lost without her."

"But what I want to say is that Jean's the best ambassador the agency has. She is most remarkable in her ability to see the positive in any situation. She's an inspiration to me."

"Jean has a genuine talent for caring about people," Glosser says. "She deals with all sorts of people who come through here day after day. She can be soothing under circumstances of utter frustration."

"Even when people approach Jean about things that are not agency business, she'll listen and offer assistance if she can. In that way she personifies the spirit of giving and of caring."

### Secretary as Professional

"I am a hard worker," Reilly says simply, by way of explaining her success. "I always do the best job I can and believe others should do the same."

Despite Reilly's soft-spoken demeanor, she can articulate a clear philosophy that guides her. "You have to know your priorities. If you have deadlines, or anytime you're dealing with an emergency, you have to keep your priorities in or-



*Photos by Laura Smith.*

der: First things first, and eventually everything else falls into place."

An emergency in the Administrator's office might involve securing information for the Secretary's office in a very short timeframe. Or it might involve canceling and rescheduling appointments and meetings or arranging for a substitute because Glosser has been called to a last-minute Departmental meeting or a Congressional subcommittee hearing.

"In the case of an emergency, everybody pitches in," Reilly says, referring to Glosser and Melland as well as Melland's Secretary Pat Wine. "Being in this office means that you're one of a team. You help out where you can, doing whatever needs to be done."

Reilly maintains that these occurrences become routine. By close of business on some days, Glosser's schedule may have had no resemblance to the one Reilly provided him that morning.

"This is my career," Reilly says. "I use initiative and take responsibility for the work that I am associated with and doing. I consider myself a professional and believe all secretaries should consider themselves professionals as well. We are important to the organization and play a key role in the orderly running of the office."

Proof of her excellent work record includes numerous certificates of merit and awards for her outstanding service from the wide variety of supervisors that she has served.

Concerning the professional status of secretarial work, she points out that young women interested in a career today have a much greater diversity of opportunities than they did when she was first starting out. She says managers will have to actively support the professionalism of the secretarial series if they want to keep employees interested.

"They will have to keep the jobs attractive," she says. "They'll have to offer incentives, such as training, day care, flextime, and other similar services. They'll have to keep working conditions acceptable, and they'll have to reward good secretaries and clericals for their good work."

### Secretaries Advisory Council

As secretary to the agency Administrator, Reilly chairs the Secretaries Advisory Council (SAC), a group formed in 1987 from secretaries of the AMT members. The SAC was organized during a time when there had been a high turnover in secretaries at the headquarters offices.

"We were having difficulty retaining secretaries and training the new ones," Reilly recalls. "The turnover was so constant, no one had the time that it takes to make sure the new secretaries got the attention they really needed."

The main focus of the SAC in the early days was to define what skills new secretaries needed to function in APHIS. The group determined that new APHIS secretaries needed orientation on what APHIS is and does, the correspondence manual, Prime System, and telephone techniques. Most recently, the Council met to work on a revision of the APHIS correspondence manual.

*(continued on page 26)*



# The Care and Feeding of Super Secretaries

In July 1990 R&D's Management and Professional Development (MPD) staff brought together the different elements of the EXPERT, Master Performer, and Master Performer Trainer programs to create one program called ExCEL, or Excellence Through Clerical Expertise and Learning.

ExCEL addressed the needs of office support staff, as originally addressed by the Secretaries Advisory Council (see accompanying article). The ExCEL program provides progressive training for secretaries, clerk-typists, and other office support personnel ranging from entry to full-performance levels.

"People in office support positions can take a proactive stance in planning the course of their careers," says Asia Rial Elsabee, MPD Deputy Director. "ExCEL is designed to reflect their current, on-the-job needs and their aspirations for the future. And, of course, it reflects APHIS' needs as a professional service organization."

"We wanted the program to reflect the accomplishments of the secretarial career ladder," says R&D Employee Development Specialist Betsy Guardiola. "We designed it to include skills assessment, developmental assignments, and internal and external training, including college courses."

"The program is organized on three levels," Guardiola explains, "and each level builds skills required for the next."

The first level—that is, the EXPERT ("Excellent Performance through Training") program—is keyed to new employees, although

any APHIS staff member may enroll to acquire skills. Through EXPERT, R&D offers courses in orientation, administrative forms and procedures, correspondence, English language skills, proofreading, word-processing skills, data and records management, customer service and public relations, and career assessment and planning. Employees also have the option to receive EXPERT certification by successfully completing skills surveys or "pre-tests."

Individual parts of the EXPERT training are offered a number of times throughout the year, depending on employee requirements. Individual courses last from two to five days. An enrollee should be able to finish EXPERT within six months.

The Master Performer Program, the second level of ExCEL, provides training that prepares employees for more diverse career assignments. The Master Performer program includes an individualized training plan, developmental assignments with R&D, outside training such as college courses and government training programs, and recognition—including cash awards.

"Employees must be GS-5's or above to be eligible for the Master Performer part of the program," Guardiola says. "They also must have one year of government experience and have received EXPERT certification."

The Master Performer Trainer program is the third level of the ExCEL program. Participants work with R&D to develop and present office-skills training to ExCEL participants and other APHIS audiences.

Master Performer Trainers receive certified professional instructor training, college courses, developmental assignments, and a promotion of one grade level. The promotion is for a three-year term and may be extended for another three years. Participants must be graduates of the Master Performer program to be eligible for the Master Performer Trainer program.

ExCEL also offers WORKING, a five-unit series that focuses on effective communication and interpersonal skills. Units cover such topics as listening skills, giving feedback, requesting help, getting your point across, participating in meetings, keeping your boss informed, positive responses to negative situations, and others.

The WORKING series consists of one-day sessions that R&D provides throughout the year. All grade levels are eligible, but a minimum of 12 participants is required to convene a class. R&D will take the units to field locations upon written request.

"These training tracks have been available to Headquarters personnel for some time," Elsabee says. "We now hope to make them available agency-wide, working with qualified employees and motivated supervisors to encourage the recognition and development of excellence throughout APHIS. We have confidence that ExCEL can benefit participants and management alike."

*APHIS employees interested in further information about any aspect of ExCEL should contact Betsy Guardiola on FTS/301 436-6686.*

## Jean Reilly continued from page 25

"From this early initiative has come Operation Jumpstart, which has been so successful in bringing secretaries and clericals to the agency," Reilly says. "It also has been the start of the Expert/Master Performer/Master Performer Trainer programs, which give secretaries additional training and allow them an opportunity to help train

others. It is the kind of incentive that enhances a secretarial position and attracts the very best candidates to it."

Reilly professes no immediate plans for a change at this time in her career. Her interests off the job include visiting and activities with family and friends; reading; watching television, especially old movies, tennis, and football; crocheting and

knitting (which she has not done for a while); and, of course, shopping!

"I'm happy being a secretary and have no desire to do other types of work at this time," she says. "As long as I can continue to feel challenged, to feel that I am making a contribution by helping others and making their jobs easier, then I'm happy and content." □



## Works Better, Lasts Longer

After two months, Campbell found that deer stayed away entirely from dormant seedlings treated with starling powder and browsed only 8 percent of seedlings that were in their growing phase. By contrast, the deer browsed on well over half of the control plantings, whether or not they were sprayed with Rhoplex adhesive.

Mountain beavers also responded to the effects of the powder, but not quite as well—the mountain beavers damaged 30 percent of the treated seedlings. To enhance the aversion, Campbell and Jim Farley, an S&T biological technician, treated some cull seedlings with the powder and put them into beaver burrows to condition the inhabitants. The conditioned mountain beavers cut only 13 percent of the treated seedlings in the test planting.

"The aversion wore off with time," Campbell says, "but it seemed to last longer than the aversion achieved with egg powder. Just under half of the seedlings in the treated planting were left undamaged about 12 months after treatment, while nearly all controls were destroyed. Our results so far have encouraged us enough to plan a more extensive field trial."

One benefit of the starling powder is that the concept is close to that of egg powder used as an aversive treatment. Because Federal and state authorities have already approved the egg powder, Campbell says, it may be relatively easy for them to approve the starling powder for the same use.

And that, according to Campbell, may be the starling powder's most practical value for forest managers. □

## The Pest Patrol

By Rose Mary Lane, Western Region, PPQ

The Pest Patrol, a trailer containing information on plant pests, was open to visitors at the Science and Technology Fair in Sacramento, CA, in June 1990. The Fair was sponsored by the National Chicano Science Project with the goal of reaching Hispanic youths.

PPQ-Western Region provided hands-on activities and exhibits for the trailer. APHIS' participation in the Fair was twofold: (1) helping to develop public awareness of pest risks, and (2) fostering children's interest in pursuing careers in sciences.

Beagle Brigade team dog Barnaby and handler Carolyn Pizzo of the San Francisco International Airport performed to the delight of the 5,000 attending the fair. Julia Aliaga, Hispanic Program Manager for PPQ's Western Region in San Diego, and Lisa Krekorian, EEO committee member in San Francisco, explained the work of PPQ officers and what is being done to protect the nation's agricultural resources from the international spread of plant pests.

The Pest Patrol trailer was provided by the California Department of Food and Agriculture (CDFA). Regional Budget Analyst Mary Gutierrez initiated and coordinated APHIS' participation at the fair, which was, by all accounts, a huge success.



Julia Aliaga, Hispanic Program Manager for PPQ's Western Region in San Diego (left), and Regional Budget Analyst Mary Gutierrez watch children (in foreground) learn about plant protection in hands-on exhibits in the Pest Patrol, a CDFA trailer used at the National Chicano Science Project in Sacramento in June. Lisa Krekorian, EEO committee member from San Francisco, is in background.



Beagle Brigade handler Carolyn Pizzo and Barnaby, in the spotlight.  
Photos by Richard Gaspari.

only some of the physical means by which information is processed, stored, and maintained.

"The key to IRM is treating information as a resource, not just dealing with the hardware and software used to process it," he concludes.

About IRM, M&B Deputy Administrator Bob Buchanan has said, "We can no longer afford to make arbitrary or 'seat of the pants' decisions. We have the technology and the data available to base decisions on solid information that shows clear trends and patterns."

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**"IRM means viewing and using data as an asset, as though information were a physical resource like personnel or furniture."**

*Ira Hobbs*

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He further said, "Information is a great resource for us. Data often accumulate as by-products of the administrative systems. They often lie dormant, waiting for people with the imagination and analytical ability to breathe new life into them. We must manage this information so that we can deliver the best possible programs to our agency."

Buchanan added, "Information must be systematically managed as a primary resource for planning, problem solving, and decision making in order to be available for our everyday business. Just because we know how important information is to APHIS does not mean we can claim more for our management of this resource than is justified. But many APHIS personnel are using information every day on the job to meet the requirements of APHIS' missions."

### **Management Support System**

An innovative and powerful information-based management tool in APHIS is the Management Support System (MSS). Administered by ISCD, MSS provides a single, user-friendly source of updated information on APHIS resources, issues, projects, and regulatory changes. It

also allows executives instant access to specially formatted management information reports—drawn from a variety of sources—to aid their decision making.

Using the MSS, members of the APHIS Management Team (AMT) have the ability to make program-related decisions based on current information. Top management has immediate access to MSS modules, including Strategic Goals, Project Management, Critical Issues, Financial, Docket Tracking, and Administrative Tracking. Calendar of Events and News Retrieval modules will soon be added to the system.

Many AMT members and other managers in APHIS use MSS information as a strategic resource in their daily work. They check on regulatory changes in Docket Tracking and on budget status in the Financial Module. A widely used module is Critical Issues, which provides the previous and current status on activities related to key questions before APHIS.

The Financial Module is also widely used by managers to access the status of funds. Michael Gregoire, Director of M&B's Budget and Accounting Division, says, "The MSS Financial Module has cut down on the number of meetings on the status of funds. We have also used the MSS to develop plans for APHIS' response to the 1991 budget problems."

The new Technical Approval Tracking Module provides current information regarding the Technical Approval (TA) process. According to M&B's Joe Taylor, Chief, Procurement and Engineering Branch, Administrative Services Division (ASD), the module readily gives current TA balances, item descriptions, and process status. The module also depicts many of these data in graphic format, making them much easier to comprehend.

### **Information Applications**

Applications of information resources in APHIS range from collecting and interpreting animal disease statistics to compiling national directories of professional information on veterinarians and other personnel. What follows are several examples of information use by APHIS personnel that show this breadth.

Kevin Walker is an Agricultural Economist with VS' National Animal Health Monitoring System (NAHMS). According to Walker, "NAHMS consists of two major components. One is the active collection and analysis of animal health data: meeting with industry and the public to determine what information is needed, writing and administering surveys to gather that information, and compiling results. The other major component is accessing existing data from other sources, to be integrated with the survey information and so that the base of data on animal health can be expanded.

"Our job," says Walker, "is to convert numbers and other raw data into information by applying the theories and practices of veterinary medicine, epidemiology, and economics to the data. The emphasis is not only to collect data but to analyze them and make interpretations based on the data. We want to have a better understanding of trends in animal health and the implications thereof."

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**"Data often accumulate as by-products of the administrative systems. They often lie dormant, waiting for people with the imagination and analytical ability to breathe new life into them."**

*Bob Buchanan*

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Walker offers NAHMS' National Swine Survey as an example. He says the actual survey, the "front end form," generates raw data such as health and disease conditions of baby pigs. Walker says NAHMS collects the raw data "to better understand how different disease and environmental factors affect the health and productivity of the farrowing (birthing) phase. When we find better, more productive processes, we present this information to the public.

"NAHMS uses many mediums to present its findings," Walker says. "We report on trends and findings through the publication *Animal*



Insight. We reach producers and producer groups through lay publications and professional meetings and the scientific community through technical journals."

Through the work of the NAHMS staff, valuable information is generated and distributed to the relevant APHIS offices, industry, and the public, so that information can be used to improve animal health program delivery.

S&T also uses information to improve program delivery. E. George Strasser reviews port-of-entry fumigation data at the Hoboken Plant Methods Development Center of S&T. Each month, the information from 400 to 600 fumigation data documents (APHIS form 8030) is loaded into a database.

This allows Strasser to perform his job more efficiently, tracking those agricultural commodities that are being fumigated at each port of entry, capturing the amounts and types of pesticide used by APHIS in fumigations, and helping to detect deviations or mistakes by inspectors. Reports can be generated for the U.S. Environmental Protection Agency on pesticide quantities used by APHIS, and Freedom of Information Act requests on specific imported products can be answered readily.

In addition, when inspectors at one port of entry have problems or questions that Strasser can't answer, he facilitates the flow of information by putting them in contact with other inspectors who have experience in the problem areas.

Strasser takes a proactive role in IRM. Whenever he identifies an information need, such as a port where a new commodity is entering, he contacts the port's inspectors and advises them on methods, requirements, and possible problems or pitfalls in handling or processing the new commodity.

Strasser gives the following example: "A port inspector receives imported chestnuts for the first time. He fumigates the nuts, which are packed in sealed containers, and determines the amount of pesticide gas added by measuring the gas concentration inside the container.

"What the first-timer doesn't know is that chestnuts generate carbon dioxide gas, raising the gas concentration inside the sealed packing containers. It will appear as though more pesticide has been added than is actually the case."

Strasser sees to it that this information gets to the users that need it, improving the quality and accuracy of everyone's work. By working with fumigation information, S&T provides valuable technical support to PPQ's import inspection program.

## **Making the Most of Information**

Making the most of information resources is an important IRM concept. M&B's Don Miller, Safety, Health and Environment Section (SHES) Head, ASD, finds many ways to use data from the Office of Workers' Compensation Programs.

When an employee is injured on the job, the employee's supervisor submits an accident report to SHES. SHES then submits the accident report to the U.S. Department of Labor (DoL), where information on the accident is entered into a database. On a quarterly basis a copy of this information is submitted on tape to USDA's Kansas City Computer Center.

Miller uses the data to keep both the employee and his or her supervisor informed on the status of medical and other compensation claims. He also uses them to establish accident trends, totals, and tallies for statistical purposes.

Says Miller, "In addition, we make sure the injured person is really an APHIS employee, so that DoL doesn't charge USDA for claims that aren't ours."

Good, quickly accessible information on people is essential to APHIS in meeting program requirements. R&D maintains a database of more than 700 veterinarians, listing specialties, language skills, nations where they've worked, schools attended, and additional degrees. R&D's Tim Blackburn, Deputy Director for Career Systems and Recruitment, sees his ability to quickly access detailed background information on veterinarians as an important management resource.

"We need tools that facilitate locating individuals with various skills and experience in order to respond to rapidly developing situations, emergencies, or crises," Blackburn explains. "I'd like to see a more detailed database developed to reflect expanded information on all APHIS employees, not just the veterinarians."

"An automated inventory of individuals' skills and interests would allow more efficient and effective

use of one of the most important information resources—the knowledge and experience of APHIS personnel," he says.

PPD recognizes that APHIS needs solid, accessible information on external groups who have a stake in agency activities. PPD's Natalie Roberts, Planning and Risk Assessment Section, in cooperation with LPA, has developed an agency-wide database of external stakeholders, that is, groups interested in areas or programs regulated by APHIS.

The primary pieces of information contained in the database are names, addresses, and classifications of organizations. This information is useful for producing mail-

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**"An automated inventory of individuals' skills and interests would allow more efficient and effective use of one of the most important information resources—the knowledge and experience of APHIS personnel."**

*Tim Blackburn*

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ing labels, allowing letters to be sent quickly and efficiently to selected groups, such as all state veterinarians.

"Currently, we have a prototype database," says Roberts. "Now we are starting to go back to the users, showing them what we have, and asking them what additional features will be useful to them." By gathering this kind of feedback, PPD hopes to expand the usefulness and capability of a fledgling IRM tool. This label production system has already been used by M&B's ISCD and Human Resources Division to meet other communication needs of APHIS programs.

Information IS power. But APHIS still has a long way to go toward fully using information as a strategic resource. Like the employees described in this article, APHIS will become more effective and productive when managers and other employees realize that the process of IRM begins with them and can be applied successfully and effectively in their work every day. □



# Grasshopper Program Integrates Interagency Research

By Doug Hendrix, LPA, Boise, ID



*The migratory grasshopper, *Melanoplus sanguinipes*, is widely distributed in North America and lives in a multitude of habitats. It is commonly found in grasslands, meadows, and fields of small grains and alfalfa. Host plants include many kinds of herbs and grasses. USDA photo.*

They're as much a part of the West as the pioneers who first fought them. Periodically they devour every green plant that the earth bears. They're grasshoppers, and they've been known as a plague since biblical times.

However, Mr. Hopper—beware! APHIS has "circled the wagons" and organized a posse of grasshopper experts to thwart your perennial feeding attacks.

From the start of activities in 1987, the APHIS-directed Grasshopper Integrated Pest Management (GHIPM) project has developed, studied, and implemented management techniques for keeping grasshopper populations below economically damaging levels. The program targets environmental and biological conditions that lead to populations of grasshoppers so large that they cost American agricultural producers in crop and forage losses and competition with livestock.

According to GHIPM Project Director Gary Cunningham, "Grasshoppers appear each year across America and often cause serious forage losses in the western states and parts of Alaska.

"The problem is not just a concern to livestock producers. It also concerns Federal and state officials who are responsible for decisions on grazing management and insect control," he says. "The GHIPM project is a result of the serious 1985 infestations that plagued the West."

## An Integrated Interagency Approach

Integrated pest management, or IPM, is the use of a variety of management practices to keep pest populations below economically damaging levels. IPM uses a compatible balance of biological, cultural, chemical, genetic, and other control methods.

"The IPM concept," explains Cunningham, "comes from the realization that any disruption of a pest population will tend to affect other pests as well as beneficial insects in any ecosystem. IPM users attempt to develop and use techniques to manage pests, not eradicate them."

The GHIPM project is headquartered in Boise, ID, although research and development of control options is conducted at over 17 Federal or university laboratories throughout the United States. In addition to APHIS, participating agencies include USDA's Agricultural Research Service (ARS), Economic Research Service, Extension Service, and Forest Service; the Department of the Interior's Bureau of Land Management, Fish and Wildlife Service, and National Park Service; and the Environmental Protection Agency's Office of Pesticide Programs.

## Innovative Control Technology

In contrast to spending money on traditional control of grasshoppers through applications of pesticides, the GHIPM project funds research for the development of biological control agents and selective grasshopper baits.

Research coordinated by Jerry Onsager, lead project entomologist with ARS' Rangeland Insect Laboratory, Bozeman, MT, consists of developing strategies and protocols for using various viruses for biological control against grasshoppers.



*Suzanne Wilson, pictured here, with the Agricultural Research Service's Rangeland Insect Laboratory, examines grasshoppers infected with host-specific viruses. APHIS hopes to integrate biological control technology into future grasshopper management arsenals. Photo by Perry Rech, Agricultural Research Service.*



"We're trying to develop the means to inoculate uninfected grasshoppers with disease organisms," says Onsager, "including viruses that attack only one species. We're developing the means to get the pathogens into baits and spread throughout natural populations."

"Most grasshopper viruses," continues Onsager, "such as the Melanoplus virus being studied at our lab, are highly host-specific and affect only targeted grasshopper species."

In an effort to determine how well they work, ARS scientists have introduced new viruses to uninfected grasshoppers in small field test plots in the northwestern United States.

Additionally, GHIPM participants are researching a variety of fungi for natural control of grasshoppers.

Raymond Carruthers and Mark Ramos, both with ARS, are evaluating native strains of a North American fungus called *Entomophaga grylli* and a related strain from Australia.

"These fungi," states Ramos, "show promise as potential biological controls because they can infect a broad range of grasshopper species. Both the native and Australian strains only affect grasshoppers. In the lab, we repeatedly expose them to doses greater than any found in nature. Our results show that these biocontrol agents cause no harm to other insects and do not affect humans or other mammals."

According to Carruthers, these fungi infect grasshoppers directly through their hard outer covering, or exoskeleton. Once established within the host grasshopper, they grow quickly and debilitate the grasshopper, generally causing death within 7 to 10 days.

Another technology being explored by grasshopper specialists is the development of grasshopper baits.

Nelson Foster, an entomologist with APHIS' S&T Methods Development Laboratory in Phoenix, AZ, is developing selective baits that combine wheat bran as an attractant

with small amounts of chemical insecticides. Foster's group also refines and evaluates field and aerial equipment used to disperse these baits.

"We are working to determine the appropriate amount of pesticide to use in wheat bran for grasshopper control. This includes investigating bait attractiveness to grasshoppers, and then studying grasshopper behavior to determine the best conditions for using the material."

"The beauty of a grasshopper bait," adds Foster, "is that it is more target-specific than typical pesticides. Many insect species will simply not feed on the bait."

### Implications for the Future

According to Cunningham, "One of the biggest challenges for the grasshopper project will be to develop management strategies that identify potential epidemics before they happen."

Cunningham believes that natural biological agents in combination with selective baits will comprise

the future arsenals for grasshopper control. He explains, "The 1990's promise to be a decade for environmental concerns, with a renewal of public scrutiny of agricultural practices. Concern about pesticide residues on foods and groundwater contamination by agri-chemicals is growing."

He adds, "The consequence of this environmental movement could well be to place additional restrictions on the use of pesticides and more emphasis on developing alternatives such as biological control."

"Our ultimate goal," says Cunningham, "is to develop a management scheme that maintains grasshoppers at levels below those that cause economic damage. Such a scheme, if it is both cost effective and environmentally acceptable, will provide a service to the public. Through cooperative efforts with our state and Federal research associates, we are making progress towards that end." □



*Fungal pathogens infect grasshoppers directly through their outer covering. Once established within the host grasshopper, the fungus grows and quickly debilitates the grasshopper. The remaining grasshopper cadaver, pictured here, can also act as delivery medium, releasing thousands of spores onto the ground and to other uninfected grasshoppers. Photo by Perry Rech, Agricultural Research Service.*

# Quintero-Stevens: Adventures of a "Queen Bee"

By Mary Yurkovich, LPA, Mexico City

Elba Quintero-Stevens is known as "Queen Bee" to the workers of the Cooperative Africanized Honey Bee (AHB) program in Mexico.

The sobriquet is an acknowledgement of the extraordinary degree of personal dedication she brings to the program.

## The Unstoppable Migration North

At the end of 1986 Africanized bees had crossed the Mexican-Guatemalan border on their unstoppable migration northward from the South American continent. By August 1987 Quintero was co-managing the program's field operations—efforts designed to retard the bees' advance.

The job placed her in the office in Tuxtla Gutierrez, Mexico. "It was about 140 miles from IS' Medfly rearing plant in Metapa," Quintero says, "where my husband, Lynn Stevens, is Officer in Charge."

Quintero arrived well-equipped for her new post: a master's degree in entomology, field experience in grasshopper survey and control, and laboratory experience in pheromone research for pink bollworm.

And she spoke fluent Spanish. As a Mexican growing up in Sonora, she began studying English in high school. She perfected it when she lived in Portland, OR.

"There I was, moving back to Mexico," Quintero says, "to attempt something never tried before. It would be a large-scale control program for retarding the movement of Africanized bees."

Mexico, with its rural population dedicated to beekeeping, was determined to learn to control this new bee. When Africanized bees reached Mexico, a national program was in place. The Mexican government then approached USDA, proposing a joint program to control the bee. Officials of both governments signed a cooperative program into being in September 1987.

A bilateral technical working group developed a plan to set up a regulated zone at the Isthmus of Tehuantepec, the narrowest part of Mexico. Intensive bee-management strategies would be used at the zone, making it difficult for the bees to move through.



Photo by Janna Evans.

## Surprises and Drastic Change

As soon as Quintero arrived in southern Mexico, she set to work. She formed survey and trapping crews that spent two months surveying and trapping at the Isthmus. "The results startled everyone and upset my personal plans," she says. "We found that the bees were already passing through the Isthmus!" The technical working group was forced to change its strategy. The program would establish an operational unit on each coast—in Oaxaca on the Pacific side and in Veracruz on the Gulf side. The Sierra Madre mountains and about 600 kilometers separated the two units.

"I packed a large suitcase and said goodbye to my husband," Quintero recalls. "To manage field operations, I needed to be in the field. But now, the field consisted of two units that were a 12-hour drive apart!"

She began to live the life of a nomad. The back seat of her car became her office; her bed was in a different hotel each night. Her job took her from trap line to trap line, from lab to lab, from unit to unit across mountain roads. She hired and trained the program personnel

in both units, working closely with them until everyone had confidence in the work.

The administrative support system for the program was hobbled by two large government bureaucracies. Money for program needs was simply not reaching the field. While a workable system was being developed, Quintero's paychecks went to buy supplies for the identification laboratories and to pay maintenance costs for the program vehicles. Her supervisors were paying for the gas their field crews needed for program trucks. Quintero reimbursed them when she visited their areas.

"For months I hid the pesos for a \$5,000 operating fund in the cubbyholes of my 'office,'" she says, meaning, of course, her car. Though robberies were a real threat on sparsely travelled Mexican roads, she was never robbed.

"Once, I was reviewing program activities with a co-worker from the Agricultural Research Service (ARS)," she recalls. "We reached a town in Veracruz at 11 p.m. We were exhausted, but the only hotel open at that time charged by the hour. So that night, both of us slept in the car!"

After exactly one year and four days as field coordinator, Quintero



was summoned to Mexico City. She was needed at headquarters, where she would co-manage the program. "The long hours of work in the field, irregular meals, and strange beds had begun to break down my health. The idea of a home and a real office was appealing."

Quintero moved to the capital. Her health improved as she began to follow a more regular schedule. Still traveling frequently to the field, she could always return to her own home and kitchen and bed. "There was still one drawback," she said. "Visits with my husband averaged once every six weeks."

### Success!

The hardships of the first year paid off for her, however. She had earned the confidence and trust of program personnel and made many good friends. As the Africanized bees continued to move up both coasts, the program's technicians— young, professional, and dedicated—were learning more and more about bee management. And they were accumulating the data that measured the success of the program.

The data showed that on the Pacific side of the country, Africanized bees were traveling an average of 35 kilometers per month outside the control of the units. When they entered the control zone of the units, their rate of travel slowed to an average of 20.7 kilometers a month. The program had slowed the bee's advance by 43 percent. The difference on the Gulf side was even more dramatic, with the advance slowed by 63 percent.

The Cooperative AHB program had retarded the bee's arrival in the United States by more than one and a half years. None of the achievements of the program would have been possible without the dedication of its technicians, and that was due in part to its "Queen Bee," Quintero.

In July 1990 Quintero moved to Harlingen, TX, to rejoin PPQ. She is now developing and carrying out a plan to control the bees, which have begun to arrive in Texas. Her husband hopes to relocate near her.

"We still hope to live together, though it may not happen until retirement," Quintero says, smiling. "Then, we may move back to Mexico and raise bees—together." □

## The Bees

In 1956 a Brazilian researcher imported African bees, hoping to breed a hardier, more productive bee for Brazil's tropical climate. These bees from Africa exhibited behavior distinct from that of the European varieties kept by most beekeepers.

Although identical in appearance to European bees, the African bees swarm six times as often. They eat the honey they make instead of storing it. They produce drones year round instead of just during the flowering season, when the hive can support nonworkers.

And significantly, in Africa they developed strong defensive characteristics. Highly sensitive to noise, smells, and alarm pheromones, they will defend the hive with little provocation. They sting in large enough numbers to pose a threat to humans and animals crossing their paths.

Once placed with Brazilian colonies, the imported African bees promptly swarmed and began spreading both northward and southward through the Americas. They interbred with the local European honeybees. Their progeny, known as the Africanized honeybees, possessed the dominant defensive traits.



**RECYCLE IT!**—On Sept. 4 April Brewington (left), Head of Hyattsville Facilities Service Center, and PPQ's Robin Cecil inaugurated the use of collection bins for glass and aluminum cans in a pilot recycling project on the sixth floor of the Federal Building. The recycling effort, sponsored by the Federal Employee Recycling Organization (FERO), was initiated and developed by PPQ's Ron Komsa. The University of Maryland's Environmental Conservation Organization, a non-profit, student-run recycling group, collects the empties and transports them to appropriate recyclers. The pilot was successful, and the bin project was expanded to all floors of the Federal Building on Oct. 22. Recycling of computer and office paper is planned for the near future. FERO is an employee organization with representatives from all agencies in the Federal Building. Photo by Laura Smith.

# Have You Heard the One About the Hippopotamus...

By Courtney Billet, Executive Correspondence, LPA

"I learned a long time ago not to get too close to anything that could eat me," Randy Mitchell says sagely.

Mitchell, an Animal Care (AC) Inspector in APHIS' Regulatory Enforcement and Animal Care South Central Sector, knows whereof he speaks. In the course of a day's work, he and his colleagues may encounter animals capable of devouring, impaling, stepping on, spitting at, charging toward, or otherwise preventing them from carrying out their mission of protecting from mistreatment animals covered by the Animal Welfare Act (AWA).

Steve Smith, a Northeast Sector Inspector, shares Mitchell's cautious approach to some of the larger, more exotic species. "We have to get near enough to the animals so we can observe their health and make sure they're being cared for properly. Other than that, we don't like to get too close to them. You have to remember that, regardless of how much they've been trained, they're still basically wild animals."

## Harrowing Tales

But even with all the precautions, the inspectors have quite a few war stories among them. The South Central Sector's Lou Smith, for example, recalls an inspection she performed at a zoo in Texas. She was examining the enclosures where some monkeys were housed, when one of them reached out, grabbed her by the hair, and held on tight.

At another facility, she was shaken—though unharmed—when a nearly 100-pound jaguar cub named Zar reared up and put his front paws on her shoulders. "Thank goodness he had been declawed!" Smith laughs.

Fortunately, not all of the inspectors' experiences are so harrowing. The South Central Sector's Johnnie Jennings, for example, tells of an inspection he conducted at a facility that housed about 30 baboons. The minute Jennings walked into the area where the animals were kept, the baboons went bananas, so to speak. The baffled inspector was soon told that the cause of the unseemly racket was the aroma of the Juicy Fruit gum he was chewing.



REAC Animal Health Technician Johnny Jennings shows off Rachel, a 4-year old chimpanzee that makes TV commercials and poses for greeting cards. Jennings sees Rachel and 2-year-old Eli, a chimp with a penchant for chewing gum, on routine inspections in Iowa Park, TX. Photo by Elaine Bennett.

"These baboons loved chewing gum," he laughs. "And wouldn't you know, they were especially partial to Juicy Fruit! I had to pass out gum to all of them before I could go on with the inspection."

Jennings tells of a young monkey named Eli, who lives in a cage shaped like a circus wagon. Eli has the key to his own cage and lets himself in and out at will. Once, upon seeing Jennings, Eli came out of his cage, climbed into Jennings' lap, took Jennings' black cowboy hat, and put it on himself. At the memory, Jennings laughs heartily. "I said to the owner, 'Hey, lady, this monkey's trying to eat my hat!'"

Another inspector, the Western Sector's Greg Wallen, once had to inspect an enclosure in which a performing elephant was to be

housed. He arrived to find a construction crew putting finishing touches on the pen. The elephant seemed very content with all the human effort expended for her benefit but, for some reason, appeared unhappy with Wallen's intrusion upon the scene. As Wallen turned to leave, the elephant filled up her trunk from her drinking bucket and blasted him with water, drenching him.

Wallen has also encountered goats who tried to eat his clipboard and a baby Bengal tiger who took one look at him and seized upon his leg. Mitchell was once bitten on the hand by a spider monkey. More than one inspector tells of being the target of unsavory projectiles hurled by primates.



## Getting Attached

Annual visits to the same facilities sometimes result in attachments to particular animals. One inspector admits to hiding a few grapes in his pockets for a favorite monkey. Another enjoys going to a facility where the chimpanzees greet him with kisses. An animal act Wallen inspects includes a playful orangutan named Nicky who spits at Wallen and tries to steal his wallet.

Jennings has befriended Izeh, a 600 pound tiger "that's just like a big old tomcat. He'll even come right up to you and try to lick your hand. But boy, when he purrs, it sounds like a truck trying to start on a cold morning."

And at one zoo in Gainesville, Florida, Jennings says, "They've got an elephant who thinks I'm her best friend. When I go there, if she doesn't get to slobber on my boots, she's insulted. She also kicks back her hind leg and wants me to sit on it. It's a sign of affection."

But there is a down side to being an AC inspector. Just about everyone sometimes encounters areas of noncompliance with the AWA. Mitchell's approach seems simple. He has learned "the importance of treating people the way you would like to be treated—with respect. I've learned to just sit down and visit with them for a while. I explain the standards and what needs to be done to meet them." Basically, he finds, most people will either get out of the business or get into compliance.

"For many of those who aren't in compliance," Mitchell adds, "it's a matter of ignorance more than anything else. You really just have to 'sell them' on compliance."

But, as in any business, Mitchell explains, "some people definitely are lost causes. There is always going to be that certain percentage of people that aren't concerned with the animals' welfare. They're in it for the dollar. I lose patience with them pretty fast."

Wallen agrees. "You do run into some people who are real deadbeats. But these people are quickly identified and action is taken."

Sometimes even an apparent deadbeat can surprise you. Mitchell tells of one individual who seemed to be a hopeless case. After working for some time to educate her on the steps she needed to take to get her facility into compliance with the law, he was just about ready to give up on her. He went to her facility completely prepared to take serious action and was amazed to find that she had done a complete turnaround. He hasn't had any major problems with her since.

Some licensees consistently go far above and beyond the call of duty to provide extraordinary care to their animals. Wallen has encountered some trainers in Hollywood that have developed waterbeds for their animals—actual flotation devices for the animals to sleep on!

And one business that raises dogs for sale as research animals cares for the animals in a facility described by Smith as "the classiest place you'd ever want to go." It has a sophisticated climate control system, skylights, spacious runs for exercising the dogs, and programs for socializing the animals.

"It's those success stories that make the job so rewarding," says Mitchell.

So, despite the potential hazards of the job and the occasional frustrations, it's no wonder so many of the AC inspectors truly enjoy their work.

"I love what I'm doing," Jennings says. "Out of all the possible jobs I could have, this is where I want to be."

No doubt that enthusiasm translates into a job well done. □



**Plant Detective Turns Animal Therapist**—Kojak greets a disabled veteran during a tree planting ceremony at the Long Beach V.A. Hospital Nursing Home in California Nov. 9. Kojak and Handler David Rothman, Beagle Brigade team at the Los Angeles International Airport, visited the home to honor wheel-chair-confined veterans on Veterans Day. Photo by Judith Rothman.

## Photo Search: Still Going Strong

*Inside APHIS* is still looking for ways to show how vital [important, extraordinary] APHIS' mission is; how capable [talented, impressive] its employees are; and how interesting [diverse, demanding] our jobs can be.

The summer 1991 issue of *Inside APHIS* will carry the second "APHIS at Work" Photography Contest. For photographers who have sent us entries for the photo search, thank you and hold on! For those of you who haven't, the deadline has been extended!

For no money and only a modicum of glory, you can have the satisfaction of seeing your artistic creation presented to an audience that can appreciate it: your fellow APHIS employees.

The guidelines are the same as before. Send either a 35-mm original color slide (or top-quality duplicate) or 8x10 glossy black-and-white or color print to *Inside APHIS*, Room 606 Federal Building, 6506 Belcrest Road, Hyattsville, MD 20782, by March 31, 1991.

With your submission, tell us who you are, identify the person and activity in the photo, and accompany it with a release statement signed by the person(s). The statement should say, "I hereby consent that all photographs taken of me at \_\_\_\_\_ on \_\_\_\_\_ by \_\_\_\_\_ may be used by USDA/APHIS, and/or others with APHIS' consent, for the purposes of illustration or publications." Have each person include his or her work address and phone number on the statement.

All APHIS employees, excluding members of LPA, are invited to send in items. A panel of professional photographers will pick winning entries, considering such qualities as action, human interest, lighting, composition, focus, and movement.

It is suggested that photos not be sent if they show backs of people, shading on faces, tobacco or alcohol, on-the-job scenes if safety requirements are not met, or the standard, posed "grip-and-grins."



A horse is hoisted aboard a ship from a pier in Brooklyn, NY. Quarantine Enforcement Officer Artie Schwartzberg received an honorable mention for this picture from the first "APHIS At Work" photography contest in 1988.



**"PROTECTING U.S. AGRICULTURE"**—is the Spanish message on Brandy's new jacket, which she models with Canine Handler Tommy Miller at Chicago's O'Hare Airport. According to Supervisory PPQ Officer Kerry Bryan, all Beagle Brigade dogs will soon have the option of wearing jackets with the all-important message in Arabic, Chinese, Czechoslovakian, Dutch, German, Italian, Japanese, Korean, Filipino, Polish, Portuguese, Spanish, and Yugoslavian. Brandy is also distinguished as a member of the first one-handler, two-dog team in APHIS. Because the dogs can only work about four hours a day, Miller alternates Brandy and Sparky at passenger arrival lines, thereby doubling possible seizures and public exposure. Photo by Jim Rennhack.

